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Result No.

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Query Match

Length

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Description

ID AAP71559

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45 45 45 45 101 101 114 118

14 21 10 10 10 10 23

AAR43278 AAB18551 AAP81933 AAP90557 AAP90558 AAP90559 AAP90560 AAB881292

Fibroblast Growth
FGF antagonist bFG
Immunogenic peptid
Human basic fibrob
rhbFGF mutein CS10
rhbFGF mutein CS10
rhbFGF mutein C114
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proliferative diseases

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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SUMMARIES

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ets or a			[CAL	943.	189.					ant	2		in,		21 21																					
of fibroblast growth factoridic forms, useful eg f			STUDIES.						FGF; heparin-binding.	antagonist #4.			45 AA.	ALIGNMENTS	AAY87847 AAY87848	AAY93186	AAR65929	AAR65928	AAR65927 .	AAR65925	AAR39188 AAR42835	AAR39190	AAR27717	AAR27966 AAR27967	AAR27965	AAR25943	AAR25197	AAP82579 AAR11427	AAR23913 AAP71145	AAR24408	AAP81937 AAR03964	AAP90563 AAP90565	AAP81932	AAP90564	AAP81940 AAP90562	AAP90561
tor - for treating															Human FGF-2 protei Bovine FGF-2 prote	Human basic fibrob	Fibroblast growth	Fibroblast growth	Fibroblast growth	Fibroblast growth	Human basic Fibrob bFGF mutein CS23.	Human basic Fibrob	Mammalian basic FG	bFGF mutein BFM4. bFGF mutein BFM5.	bFGF mutein BFM3.	Bovine basic FGF.	Basic fibroblast g	Human basic fibrob Basic fibroblast q	Basic fibroblast g	Sequence of basic	Human basic fibrob	rhbFGF mutein C137	Human basic fibrob	rhbFGF mutein CS23	Human basic fibrob rhbFGF mutein C129	rhbFGF mutein C123

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14-NOV-1988;
27-APR-1992;
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                                                                                   The peptide bFGF(24-68)-NH2 (100mcg/ml) radioactive bFGF bound to the BHK cells affinity to bind heparin.
                                                                                                                                                                                                                                                New fibroblast growth factor peptide(s) - are FGF antagonists used to inhibit cell growth in culture or in disease e.g. retinopathy, glomerulonephritis, melanoma etc.
                                                                                                                                                                                               Example 1; Column 10; 12pp;
                                                                                                                                                                                                                                                                                                                                                                   WPI; 1993-336156/42.
                                                                                                                                                                                                                                                                                                                                                                                                                      Baird
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bovine; basic fibroblast growth factor; antagonist; mitogen; melanoma; glomerulonephritis; retinopathy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              melanoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FGF antagonist bFGF(24-68)-NH2.
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05-MAY-1994
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                                                         bFGF bound to the BHK cells by 54 bind heparin.
25-MAR-2003 to correct PF field.)
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88US-0270225.
92US-0873773.
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Pred. No. 5.4e-26;
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Sequence

45

Query Match Best Local S Matches 45

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Score 239; DB 21; Pred. No. 5.4e-26; ; Mismatches 0;

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Matches 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Immunogenic peptide; fibroblast growth factor; FGF; VBGF; cancer; vascular endothelial growth factor; hyperproliferative disorder; haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis; telangiectasia; psoriasis; scleroderma; pyogenic granuloma; myocardial angiogenesis; Crohn's disease; plaque neovascularisation; myocardial angiogenesis; Crohn's disease; plaque neovascularisation; arteriovenous malformation; corneal disease; rubeosis; neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia; arthritis; diabetic neovascularisation; macular degeneration; arthritis; diabetic neovascularisation; macular degeneration;
                                                                                                      The peptides are used to produce immunogenic compositions. The immunogenic composition is used for treating cancer or hyperproliferative disorders, especially haemangiona, solid tumours, blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis, scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's disease, plaque necovascularisation, arteriovenous malformations, corneal diseases, rubeosis, neovascular glaucoma, diabetic retinopathy, corneal diseases, rubeosis, neovascular glaucoma, diabetic retinopathy,
                                                                                                                                                                                                                                                                                                                           An immunogenic composition useful for treating cancer or hyperproliferative disorders comprises an immunogenic peptide fragment of fibroblast growth factor and/or vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         wound healing; peptic ulcer; Helicobacter related disease; fra keloid; vasculogenesis; hematopoiesis; ounlarion
                                                   retrolental fibroplasia, arthritis, diabetic neovascularisation, macular degeneration, wound healing, peptic ulcer, Helicobacter related diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation,
                                                                                                                                                                                                                                     AAB18542-51 represent immunogenic peptide fragments of fibroblast growth factor (FGF) and/or vascular endothelial growth factor (V
                                                                                                                                                                                                                                                                                            Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                           Holaday JW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unidentified.
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                                  menstruation,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Immunogenic peptide fragment derived from FGF and/or VEGF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (ENTR-) ENTREMED INC
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                                                                                                                                                                                                                                                                                          Page 28; 95pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                         Ruiz A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000WO-US06320.
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Pred. No. 5.4e-26;
); Mismatches 0;
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                                                                  Using plasmid pTB796, E.coli MM294 was transformed, whereby the strain E.coli MM294/pTB796 was obtained, which (IFO 14701, FERM BP-1661) harbors the plasmid pTB796 expressing the mutein represented here. The amino acid sequence Lys 87 to Ser 147 has been deleted. The mutein has high stability and is low in toxicity. It can be used as a healing accelerator for e.g. burns, wounds or postoperative tissues or as a therapeutic drug based on its angiogenic action for e.g. thrombosis or arteriosclerosis. It can also be used as a reagent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular bridges are reduced or eliminated.

The data of the constituent of the constituent of the constituent of the constituent cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular bridges are also AANB1971-97.
  (Updated
(Updated
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                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Page ?; 1pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mutein of basic fibroblast growth factor - having fibroblast growth promoting activity, growth stimulating activity of capillary endothelial cells and angiogenic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Senoo
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25-FEB-1987;
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26-OCT-1990
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12-JUN-1987;
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DB; AAN81990.
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                         25-MAR-2003
25-MAR-2003
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87JP-0201510.
87JP-0201570.
87JP-0290283.
87JP-0016260.
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87JP-0043444.
87JP-0081977.
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/note="creates AF1 II recognition site"
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activity; phage M13-PC86;
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RESULT 6
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AAP90558 standard; protein; 105 AA

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RESULT 5
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19-AUG-1988;
20-SEP-1988;
                                                                                                                                                                                                                                                                        drug
cell
                                                                                                                                                                                                                                                                                        rhbFGF mutein CS102 (encoded by AAN90401) lacks 46 C-terminal AAn basic fibroblast growth factor. It has high fibroblast growth promoting, vasoendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used accelerate healing of, eg burns, wounds and postoperative tissues drug for thrombosis or arteriosclerosis, or as a reagent to accel
                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Fig. 3; 41pp; english.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Muteins of basic fibroblast growth factor - lacking carboxy terminal amino acids, having growth promoting and angiogenic activities.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Senoo
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31-OCT-2002
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Pred. No. 1.5e-25;
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Pred. No. 1.2e-25;
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19-AUG-1988;
20-SEP-1988;
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31-OCT-2002
26-OCT-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rhbFGF mutein CS105 (encoded by AAN90402) lacks 42 C-terminal AAs of basic fibroblast growth factor. It has high fibroblast growth promoting, vasoendothelial cell growth growthing, vasoendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, a drug for thrombosis or arteriosclerosis, or as a reagent to accelerate the control of the control of
                      EP326907-A
                                                        Homo sapiens
                                                                                               Basic
                                                                                                                                                                                          25-MAR-2003
31-OCT-2002
                                                                                                                                                                                                                                                         AAP90559;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Muteins of basic fibroblast growth factor - lacking carboxy terminal amino acids, having growth promoting and angiogenic activities.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1989-228965/32
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                                                                                                                                   rhbFGF mutein
                                                                                                                                                                            26-OCT-1989
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                                                                                               fibroblast
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                                                                                                                                                                                                                                                                                             standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  105 AA;
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25-MAR-2003
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                                                                                                                                     C114.
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88JP-0206968.
88JP-0235842.
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                                                                                             factor;
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correct PA field.)
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Pred. No. 1.5e-25;
Mismatches 0;
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to accelerate
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RESULT 8
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Best Local
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                                                                                26-JAN-1988;
19-AUG-1988;
20-SEP-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of basic fibroblast growth factor. It has high fibroblast growth promoting, vascendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used accelerate healing of, eg burns, wounds and postoperative tissued drug for thrombosis or arteriosclerosis, or as a reagent to acce
                                                                                                                            24-JAN-1989;
                                                                                                                                                                                                              Basic fibroblast growth
                                                                                                                                                                                                                                                                  25-MAR-2003
31-OCT-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Muteins of basic fibroblast growth factor - lacking carboxy terminal amino acids, having growth promoting and angiogenic activities.
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19-AUG-1988;
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                  WPI; 1989-228965/32
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                                                                                                                                                                                                                                                                                                                      AAP90560 standard; protein; 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rhbFGF mutein C114 (encoded by AAN90403) lacks 33 C-terminal amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1989-228965/32.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cultivation.
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                                      Sasada R,
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88JP-0206968.
88JP-0235842.
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88JP-0206968.
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                                                                                                                                                                                                                                                        entry)
                                        Kurokawa
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                                                                                                                                                                                                               factor; mutein C118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        english
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Pred. No. 1.7e-25;
; Mismatches 0;
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                                       Igarashi
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Muteins of basic fibroblast growth factor - lacking carboxy terminal

amino acids,

having growth promoting

and angiogenic activities.

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RESULT 9
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Best Local S
Matches 45
         growth factor (FGF) having at least one mutation in the beta-8-beta-9 loop, having enhanced specificity for one receptor subtype compared to the corresponding wild type FGF, by decreasing the biological activity mediated by at least one receptor subtype while retaining the activity mediated through another receptor subtype. (I) has cycostatic, vulnerary, osteopathic and antiarthritic activities. (I) can be used as a regulator of vasculogenesis or angiogenesis. (I) is useful for preparing a medicament and for treating a disease or disorder related to normal or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          drug
cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rhbFGF mutein C118 (encoded by AAN90404) lacks 29 C-terminal amino acids of basic fibroblast growth factor. It has high fibroblast growth promoting, vasoendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, as a
                                                                                                                                                                   Disclosure; Fig 1; 74pp; English.
                                                                                                                                                                                                           New variants of fibroblast growth factor, useful for treating skeletal disorders including osteoporosis, malignancies and to enhance wound and
                                                                                                                                                                                                                                                                 WPI; 2002-479754/51
                                                                                                                                                                                                                                                                                                                                                          31-OCT-2000; 2000IL-0139380
                                                                                                                                                                                                                                                                                                                                                                                       18-OCT-2001; 2001WO-IL00962
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                antiarthritic; vasculogenesis; angiogenesis; FGFR; skeletal disor. fibroblast growth factor receptor; cancer; bone fracture healing; bone growth; wound healing; achondroplasia; hypochondroplasia; osteoporosis; cartilage defect; multiple myeloma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fibroblast growth factor 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human FGF2
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                                                                                                                                                                                                                                                                                                                             (PROC-)
                                                                                                                                                                                                                                                                                                                                                                                                                       10-MAY-2002
                                                                                                                                    present invention describes an active variant (I) of a fibroblast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         for thrombosis or arteriosclerosis, or cultivation.
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FGF receptors (FGFRs),
                                                                                                                                                                                                  healing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              core structure amino acid sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              118 AA;
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correct PA field.)
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Pred. No. 1.8e-25;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cytostatic; vulnerary;
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RESULT 10
AAP90561
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Best Local :
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   drug for thrombosis ... cell cultivation. (Updated on 31-OCT-2002 to add missing OS field.) (Updated on 25-MAR-2003 to correct PA field.)
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31-OCT-2002
26-OCT-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    to enhance bone fracture healing or bone growth processes and wound healing processes. (I) is useful in detection and treatment of various FGFR related disorders including skeletal disorders e.g. achondroplasia, hypochondroplasia, and osteoporosis, and cartilage defects, multiple myeloma, epithelial cancers such as transitional cell carcinoma of the bladder and cervical carcinoma. The novel mutants are useful in high expression systems suitable for pharmaceutical production, targeting of drugs or other agents to tissues and cells having specific FGFR subtypes, and serve as template for the formation of improved agonists and antagonists of FGFRs in various disorders such as skeletal disorders and cancer. The present sequence represents a FGF core structure amino acid sequence which is given in the exemplification of the present invertice.
                                                                        rhbFGF mutein C123 (encoded by AAN90405) lacks 24 C-terminal amino a of basic fibroblast growth factor. It has high fibroblast growth promoting, vascendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, a drug for thrombosis or arteriosclerosis, or as a reagent to accelera
                                                                                                                                                                                 Disclosure; Fig.
                                                                                                                                                                                                                Muteins of basic fibroblast growth factor - lacking amino acids, having growth promoting and angiogenic
                                                                                                                                                                                                                                                                 WPI; 1989-228965/32.
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19-AUG-1988;
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                                                                                                                                                                                                                                                                                              Sasada
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llarity 100.0%;
Conservative (
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88JP-0206968.
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Pred. No. 1.8e-25;
; Mismatches 0;
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                                                                          wounds and postoperative tissues, as a lerosis, or as a reagent to accelerate
                                                                                                                                                                                                                                                                                            Igarashi
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Length 123;

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RESULT 11
ARABULT 11
ARAB1940
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Best Local Similarity
Matches 45; Conserv
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17-NOV-1987;
26-JAN-1988;
                                                                        strain E.coli MM294/pTB856 was obtained, which harbors the plasmid pTB856 expressing the mutein represented here. The amino acid sequence from Lys130 to Ser147 has been deleted.

The mutein has high stability and is low in toxicity. It can be used as a healing accelerator for e.g. burns, wounds or postoperative tissues or as a therapeutic drug based on its angiogenic action for e.g. thrombosis or arteriosclerosis. It can all be used as a reagent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Key
Misc-difference
  preferred because the mutein is highly stable and intermolecular bridges and linkages are reduced or eliminated. See also AAN81971-97.
                                                                                                                                                                                                                                                                                                                Using plasmid pTB856, E.coli MM294 was transformed,
                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page ?; 1pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                              Mutein of basic fibroblast growth factor - having fibroblast growth promoting activity, growth stimulating activity of capillary endothelial cells and angiogenic activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Senoo
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02-APR-1987;
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26-OCT-1990
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pasic fibroblast growth factor; human bFGF mutein FINT; promoting activity; growth stimulating activity; plasm ary endothelial cells; angiogenic activity.
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87JP-0043444.
87JP-0081977.
87JP-0147511.
87JP-0201510.
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87JP-0290283.
88JP-0016260.
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Pred. No. 1.9e-25;
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19-AUG-1988;
20-SEP-1988;
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31-OCT-2002
26-OCT-1989
                                                                                                                             rhbFGF mutein C129 (encoded by AAN90406) lacks 18 C-terminal amino acide of basic fibroblast growth factor. It has high fibroblast growth promoting, vascendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, as drug for thrombosis or arteriosclerosis, or as a reagent to accelerate cell cultivation. Cys 70 and Cys 88 may be replaced by Ser (see
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                                                                             Sequence
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                                                                                                                                                                                                               Disclosure; claim 8,
                                                                                                                                                                                                                                 Muteins of basic fibroblast growth factor - lacking amino acids, having growth promoting and angiogenic
                                                                                                                                                                                                                                                                 WPI; 1989-228965/32
                                                                                                                                                                                                                                                                                      Senoo
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on 25-MAR-2003
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larity 100.0%;
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88JP-0206968.
88JP-0235842.
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to correct PA field.)
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Pred. No. 2e-25;
; Mismatches
                                       Score 239; DB 1
Pred. No. 2e-25;
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19-AUG-1988;
20-SEP-1988;
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31-OCT-2002
26-OCT-1989
                                                                                                                                                                                                                                                                    rhbFGF mutein CS23C129 (encoded by AAN90408) lacks 18 C-terminal AAs of basic fibroblast growth factor. It has high fibroblast growth promoting, vasoendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, as a drug for thrombosis or arteriosclerosis, or as a reagent to accelerate cell cultivation. Cys 70 and Cys 88 have been replaced by Ser
Human basic fibroblast growth factor (FGF).
                                             AAY17995
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                                                                                                                                                                                                                                                                                                                                                                                                                                           Senoo M,
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                       16-AUG-1999
                                                                 AAY17995 standard;
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88JP-0206968.
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to correct PA field.)
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                                                                                                                                                                    0,
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Pred. No. 2e-25;
Mismatches
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RESULT 15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CC large quantities of fusion proteins, in which the fusion partner lacks a CC leader sequence, via fermentation culture according to standard CC recombinant DNA methodologies. The polypeptide of interest is cleaved CC away from the rest of the fusion protein by proteolytic digestion. A CC variety of polypeptides may be produced in this manner including CC enzymes, growth factors, single chain antibodies DNA-/RNA- binding CC proteins, membrane receptors, mutant IGFB-3s and fragments of them. CC Additionally, the invention may be used in the screening of libraries of CC random polypeptides by assays for their biological function. When fused CC random polypeptides by assays for their biological function. When fused CC accumulate in a protected cellular compartment in a soluble active form. CC Leaderless fusion proteins may be produced in a wide variety of host CC ells (e.g. Escherichia coll), in a soluble, active and easily recoverable form at temperature at or close to the physiological optima CC for host cell growth. A wide variety of polypeptides, including those CC that are otherwise unstable or insoluble may be expressed as fusions CC unstable. Sequences AAX17992-996 represent five members of the II-1-like
                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 45; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12-MAY-1997;
02-AUG-1993;
02-AUG-1994;
                                                                                                                    AAP81932;
                                                                                                                                                                                                                                                                                                                                                                           Sequence
Human basic fibroblast growth factor; human bFGF mutein N14;
                               Human basic
                                                                 25-MAR-2003
26-OCT-1990
                                                                                                                                                    AAP81932 standard; protein; 134 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to recombinant production of fusion proteins using fusion partners that lack leader sequences. The nucleic acids, vectors, host cells and methods disclosed may be used to recombinantly produce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Recombinant production of fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1999-370500/31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fusion protein; leader peptide; fermentation; interleukin-1; IL-1; leaderless fusion protein; fibroblast growth factor; FGF.
                                                                                                                                                                                                                                                                                                                                                                                                           protein family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12-MAY-1997
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (CELT-) CELTRIX PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PΑ,
                                                                                                                                                                                                                                       10
                                                                                                                                                                                                                                                          YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                       YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                                                                                                           132 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mascarenhas
                                                                                                                                                                                                                                                                                                      100.0%; Score 239; DB 20; ilarity 100.0%; Pred. No. 2e-25; Conservative 0; Mismatches 0;
                               fibroblast growth factor mutein N14 from phage M13-PN14.
                                                                 (updated)
(first ent
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93US-0100744.
94US-0284784.
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                                                                 entry)
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                                                                                                                                                                  Search completed: January 30, 2004, 11:40:05 Job time : 61.7404 secs
                                                                                                           Query Match
Best Local S
Matches 45
                                                                                                                                                                                                                               Using plasmid pTB795, E.coli MM294 was transformed, whereby the strain E.coli MM294/pTB795 was obtained, which (IFO 14700, FERM BP-1660) harbors the plasmid pTB795 expressing the mutein represented here. The amino acid sequence Pro2-Pro14 has been deleted. The mutein has high stability and is low in toxicity. It can be used as a healing accelerator for e.g. burns, wounds or postoperative tissues or as a therapeutic drug based on its angiogenic action for e.g. thrombosis or arteriosclerosis. It can also be used as a reagent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular bridges and linkages are reduced or eliminated.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-FEB-1987;
25-FEB-1987;
02-APR-1987;
12-JUN-1987;
11-AUG-1987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               growth promoting activity; growth stimulating activity; phage M13-PN14; capillary endothelial cells; angiogenic activity.
                                                                                                                                                               Sequence
                                                                                                                                                                                          See also AAN81971-97.
(Updated on 25-MAR-2003 to correct PR field.)
(Updated on 25-MAR-2003 to correct PA field.)
(Updated on 25-MAR-2003 to correct PI field.)
                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page ?; lpp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mutein of basic fibroblast growth factor - having fibroblast growth promoting activity, growth stimulating activity of capillary endothelial cells and anglogenic activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; AAN81989.
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26-JAN-1988;
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                                                     l Similarity
45; Conserv
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                                                                                                                                                                134 AA;
                                                                                                          100.0%; ilarity 100.0%; Conservative 0
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87JP-0081977.
87JP-0147511.
87JP-0201510.
87JP-0201570.
87JP-0290283.
88JP-0016260.
88JP-0235842.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label=mutation_Pro_to_Met
/note="creates_EcoRT recognition_site"
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                                                                                                           0,
                                                                                                          Score 239; DB 9;
Pred. No. 2.1e-25;
; Mismatches 0;
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                                                                                                                                     Length 134;
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Post-processing: Minimum Match 0%
Maximum Match 10
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Maximum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Perfect score:
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seq length: 2000000000
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1: /cgn2_6/ptodata/1,

2: /cgn2_6/ptodata/1,

3: /cgn2_6/ptodata/1,

4: /cgn2_6/ptodata/1,

5: /cgn2_6/ptodata/1,

6: /cgn2_6/ptodata/1,
Match Length
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Listing first 45 summaries
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Copyright (c) 1993 - 2004 Compugen Ltd.
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/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
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US-07-830-330-1
US-08-187-780-3
US-08-478-485-3
US-08-478-486F-3
US-08-231-894A-11
US-08-231-894A-12
US-08-231-894A-13
US-08-231-894A-13
US-08-231-894A-14
US-08-231-894A-15
US-08-231-894A-15
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US-08-231-894A-15
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US-08-284-784-4
US-08-854-811-4
  5464943-26
5175147-8
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5464943-25
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US-09-385-114-2
US-09-417-721-3
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Sequence 49, Appli
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Sequence
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ALIGNMENTS

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RESULT 1
US-08-100-744-4
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APPLICANT: MASCARENHAS, DE
APPLICANT: ZHANG, SUNNY
APPLICANT: OLSON, PAMELA
APPLICANT: OLSEN, DAVID
APPLICANT: CARRILLO, PEDRO
                                                                                                                                      TELEFAX: (415) 494-0792
TELEX: 706141
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 132 amino acids
                 Query Match
Best Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 4. Patent No.
                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: 22
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 813-5600
                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/08/100,744
FILING DATE: 02-AUG-1993
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: LUTHER, BARBARA J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: USA
ZIP: 94304-1018
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: CARRILLO, PEDRO A.
TITLE OF INVENTION: POLYPEPTIDE FUSIONS TO
TITLE OF INVENTION: INTERLEUKIN-1-LIKE POLYPEPTIDES
                                                                                                                                                                                                       TELEPHONE: (415) 494-0792
                                                                                           TOPOLOGY: lir
                                                                                                                                                                                                                                                                                           NAME: LUTHER, BARBARA REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 755 Page Mill Road
                                                                                                                             TYPE: amino acid
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o. 5563046
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Score 239; DB 1;
Pred. No. 1.6e-27;
Mismatches 0;
                                    Length 132;
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1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQABERGVVSIKGV 45

Matches

45;

Conservative

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Indels

0,

Gaps

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Best Local Similarity 100.
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GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                    tent No.
                            APPLICANT: Cohen, Pedro A.
TITLE OF INVENTION: EXPRES
TITLE OF INVENTION: TRANSP
TITLE OF INVENTION: SEQUEN
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LENGTH: 132 amino acids
TYPE: amino acid
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NAME: PARK, FREDDIE K.
REGISTRATION NUMBER: 35,636
REFERENCE/DOCKET NUMBER: 221
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: FOR PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION: TELEPHONE: (415) 813-5600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 4: CORRESPONDENCE ADDRESS:
                                                                                                 APPLICANT:
                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: CARRILLO, PEDRO A.

ITTLE OF INVENTION: EXPRESSION OF FUSION POLYPEPTIDES

ITTLE OF INVENTION: TRANSPORTED OUT OF THE CYTOPLASM WITHOUT LEADER SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: (415) 494-0792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/01
FILING DATE: 02-AUG-1994
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
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: California
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                                                                                          Zhang, 1
Olson, 1
Olsen, 1
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                                                                                                                                                  Mascarenhas, Desmond
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ADDRESS:
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                                                                                                   David R.
                                                                                                                                  Yang
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                          EXPRESSION OF FUSION POLYPEPTIDES
TRANSPORTED OUT OF THE CYTOPLASM WITHOUT LEADER
SEQUENCES
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Pred. No. 1.6e-27;
D; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1, Application PC/TUS9006962 GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/284,784
FILING DATE: 02-AUG-1994
APPLICATION NUMBER: 08/100,744
FILING DATE: 02-AUG-1993
ATTORNEY/AGENT INFORMATION:
NAME: Buffinger, Nicholas S
REGISTRATION NUMBER: 39,124
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.24
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US90/06962
FILING DATE: 19901129
CLASSIFICATION DATA:
PRIOR APPLICATION DATA:
APPLICATION USDATA:

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SEQUENCE CHARACTERISTICS:
LENGTH: 132 amino acids
                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy COMPUTER: IBM PC com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Baird, J. A. APPLICANT: Hajjar, David P. TITLE OF INVENTION: Treatme
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-813-5600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OPERATING SYSTEM: Windows
SOFTWARE: FastSEQ for Windows Version 2.0b
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
ADDRESSEE: Fitch, Ev
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CTTY: Palo Alto
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: 05.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Chicago
STATE: Illinois
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
STRANDEDNESS: sir
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E: Fitch, Even, Tabin & Flannery
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755 PAGE MILL ROAD
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Pred. No. 1.6e-27;
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REFERENCE/DOCKET NUMBER: 50
TELECOMMUNICATION INFORMATION:

50742

NAME: Schumann, James J.
REGISTRATION NUMBER: 20856

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Query Match
Best Local Similarity
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INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 157 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                        TELEPHONE: (703)521-4500
TELEPAX: (703)486-2347
TELEX: 24885 OPAT UR
INFORMATION FOR SEQ ID NO: 1:
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                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5288704man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 769-2:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: ISM PC compatible
COMPUTER: ISM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/07/830,330
FILING DATE: 19920420
CLASSIFICATION: 424
ATTORNEY JACKETT NOT.
                                                                 MOLECULE TYPE:
ORIGINAL SOURCE:
ORGANISM: Hom
                                                                                                                                                                         SEQUENCE CHARACTERISTICS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STATE: 22202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 1755 Jefferson Davis Highway, Fourth Floor CITY: Arlington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: AMINO ACID
                                                                                                                        TYPE: AMINO ACID TOPOLOGY: linear
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                                                                                                                                                         LENGTH:
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                                                                                                                                                       145 amino acids
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Carminati, Paolo
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Garofano, Luisa
                                                                   Homo sapiens
                                                                                                                      linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SYNERGISTIC COMPOSITION COMPRISING A FIROBLAST GROWTH FACTOR AND A SULFATED POLYSACCHARIDE, FOR USE AS ANTIVIRAL AGENT
15
 100.0%;
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 Score 239; DB 1;
Pred. No. 1.8e-27;
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              Length 145;
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APPLICANT: CLAUDIO BASILICO
APPLICANT: DANIELA TALARICO
TITLE OF INVENTION: MAMMALII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: December 6, 1991
APPLICATION NUMBER: 07/177,506
FILING DATE: April 4, 1988
APPLICATION NUMBER: 07/062,925
FILING DATE: June 16, 1987
ATTORNEY/AGENT INFORMATION:
NAME: Howard M. Frankfort
                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (212) 753-62: INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Howard M. France, 22,613
REGISTRATION NUMBER: 32,613
REFERENCE/DOCKET NUMBER: 5986/13586-US3
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 527-7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch,
MEDIUM TYPE: 360 Kb storage
COMPUTER: IBM or IBM-compatible
COMPUTER: IBM or IBM-compatible
OPERATING SYSTEM: PC/MS-DOS
                                                   PUBLICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/187,780
FILING DATE: January 25, 1994
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Wordperfect CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS
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                                                                                                                          OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                             STRANDEDNESS:
TOPOLOGY: 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 07/901,705
FILING DATE: June 22, 1992
APPLICATION NUMBER: 07/806,771
JOURNAL:
                                                                                          OTHER INFORMATION:
                                                                                                                                                                                  IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                             DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                    TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ZIP: 10022
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                                    HITLE
                                                                                                                                                                                                       LOCATION:
                                                                                                                                                                                                                      NAME/KEY:
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                                                                                                                                                                                                                                                                                                                              amino acid
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805 Third Avenue
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                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                             Protein
                                                                                                                                                                                                                                                                                                                 single
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                                                                                        This sequence, corresponding to bovine basic fibroblast growth factor, can be found in Table 1, page 9, lines 9, 14, and 19, in the application, as filed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 07/901,...
APPLICATION NUMBER: 07/806,771
FILING DATE: June 22, 1992
APPLICATION NUMBER: 07/806,771
FILING DATE: December 6, 1991
FILING DATE: December 6, 1991
FILING DATE: 07/177,506
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                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 07/17
FILING DATE: April 4, 198
APPLICATION NUMBER: 07/06:
FILING DATE: June 16, 198
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                            TELEFAX: (212) 753-6237
NFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tent No.
                                                                                                                                                                                                                                                                   NAME: JOSEPH R. RODINSON
REGISTRATION NUMBER: 33,448
REFERENCE/DOCKET NUMBER: 5986/13586-US6
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: (
FILING DATE: January
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MEDIUM TYPE: Floppy Diskette, 3+ inch,
MEDIUM TYPE: 1.44 MB storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: CLAUDIO BASILICO
APPLICANT: DANIELA TALARICO
TITLE OF INVENTION: MAMMALIAN GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                       MOLECULE TYPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE: Concur CLASSIFICATION: 424
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STATE: New York
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PUBLICATION DATE:
RELEVANT RESIDUES IN SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible OPERATING SYSTEM: PC/MS-DOS
IDENTIFICATION METHOD: OTHER INFORMATION: This sequence,
                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET:
                                 LOCATION:
                                                                                                                                                             TYPE: amino acid
                                                                                                                                                                                                                                                    TELEPHONE:
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                                                       NAME/KEY:
                                                                                        DESCRIPTION:
                                                                                                                           COPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
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                                                                                                                      ESS: single
linear
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                                                                                                                                                                                                                                                      (212) 527-7700
                                                                                        Protein
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Y 25, 1994
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Pred. No. 1.8e-27
); Mismatches 0
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MEDIUM TYPE: Floppy Diskette, 34

MEDIUM TYPE: 1.44 MB storage

COMPUTER: I.EM PC compatible

COMPUTER: IEM PC compatible

OPERATING SYSTEM: PC/MS-DOS

SOFTWARE: Wordperfect 5.1

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/478,4:

FILING DATE: June 7, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Patent No.
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APPLICANT: CLAUDIO BASILICO
APPLICANT: DANIELA TALARICO
                                                                                                                                          APPLICATION NUMBER: 07/9017
FILING DATE: June 22, 1992
APPLICATION NUMBER: 07/807,
FILING DATE: December 6, 199
APPLICATION NUMBER: 07/177, 5
FILING DATE: April 4, 1988
APPLICATION NUMBER: 07/062,
FILING DATE: June 16, 1987
ATTORNEY, AGENT INFORMATION:
TELEFAX: (212) 753-623 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                 REGISTRATION NUMBER: 32,613
REFERENCE/DOCKET NUMBER: 5986/13586-US7
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: appublication information:
                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 536
PRIOR APPLICATION DATA:
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OTHER INFORMATION:
                                                     TELEPHONE:
                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 08/187,780 FILING DATE: January 25, 1994
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PUBLICATION DATE:
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es 45; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE:
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                                                                                                                                Howard M. Frankfort
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New York
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805 Third Avenue
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                                                       (212) 527-7700
                                                                                                                                                                                                                                                                            January 25, 1994
NUMBER: 07/901,705
June 22, 1992
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07/177,506
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                                                                                                                                                                                                                                                           07/806,771
                                                                                                                                                                                                                                                                                                                                                                                                           US/08/478,486F
                                                                                                                                                                                      07/062,925
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Pred. No. 1.8e-27;
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Patent No.
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Best Local Similarity
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                            TELEFAX: (617) 523-69
NFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acid
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APPLICANT:
                                                                                                                                                                        APPLICATION NUMBER: JP 09
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 00
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE:
                                                                                                                                             APPLICATION NUMBER: JP 066381-1992 FILING DATE: 24-MAR-1992 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                         FILING DATE: 24-APR-CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: FastSEQ Vers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
                                                                            NAME: RESNICK, DAVID S.
REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 41769-FWC
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
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ITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION
                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM CO
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OTHER INFORMATION: Th
OTHER INFORMATION: CO
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FILING DATE: 22-APR-1994
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                                                               TELEPHONE:
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                                            : (617) 523-34(
(617) 523-6440
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                                                             523-3400
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                                                                                                                                                                                                                               JP 097655-1991
                                                                                                                                                                                                                                                                                              US 07/873907
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Pred. No. 1.8e-27;
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                                                                                                                                                                                                                                                                                                                 FILING DATE: 24-APR-1992
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 09
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 06
                                                                                                                                                                   TELEFAX: (617) 523-64
INFORMATION FOR SEQ ID NO:
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MEDIUM TYPE: Diskett
COMPUTER: IBM Compat
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FRAGMENT TYPE:
ORIGINAL SOURCE:
                             MOLECULE TYPE: peptide HYPOTHETICAL: NO ANTI-SENSE: NO
                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE,
ADDRESSEE: & CUSHWAN
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APPLICANT: FUKUDA, TSUNEHIKO
TITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
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                                                                                                                                                                                                                                                                                  FILING DATE: 24-MAR-1992
ATTORNEY/AGENT INFORMATION:
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APPLICATION NUMBER: (
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CLASSIFICATION:
                                                                                                                                                                                                                                                    REGISTRATION NUMBER:
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                                                                                               TYPE: amino acid
STRANDEDNESS: si
                                                                                   TOPOLOGY:
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                                                                                                                                  ENGTH:
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                                                                                                                                  146 amino acids
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ilarity 100.0%;
Conservative (
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Pred. No. 1.9e-27;
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US-08-231-894A-13
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Best Local Similarity
Matches 45; Conserv
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                                                                                           Query Match
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MOLECULE TYPE: peptitut
HYPOTHETICAL: NO
ANTI-SENSE: NO
ANTI-SENSE: NO
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acid
                                                                                                                                            FRAGMENT TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                        REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: JP 097655-1991
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 066381-1992
FILING DATE: 24-MAR-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: FastSEQ Version 1.5
CURRENT APPLICATION DATA:
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APPLICANT: FUKUDA, TSUNEHIKO
TITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION
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MEDIUM TYPE: Diskett
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                                                                             Local Similarity
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CLASSIFICATION:
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                    YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
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YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 68
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                                                              Conservative
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SYSTEM: DOS
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                                                                          100.0%; Score 239; DB 2;
100.0%; Pred. No. 1.9e-27;
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                                                              Mismatches
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RESULT 13
US-08-231-894A-15
; Sequence 15, Application US/08231894A
; Patent No. 5811990
; GENERAL INFORMATION:
GENERAL INFORMATION:
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US-08-231-894A-14
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APPLICANT: FUGUSHIMA, AKIRA
APPLICANT: FUGUDA, TSUNEHIKO
TITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: (617) 523-64
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                            HYPOTHETICAL: NO ANTI-SENSE: NO FRAGMENT TYPE: 1 ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: pe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: JP 097655-1991
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 066381-1992
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SOFTWARE: PastSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/231.
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MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
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CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873907
FILING DATE: 24-APR-1992
CLASSIFICATION: 435
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ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
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TOPOLOGY: lir
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                                                                                                                                                                                                                              Score 239; DB 2;
Pred. No. 1.9e-27;
                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                              Length 146;
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RESULT 14
US-09-105-678A-49
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Best Local Similarity
                                                                                                                                                                        Sequence 49, Application US/09105678A Patent No. 6103882
                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                      GENERAL INFORMATION: APPLICANT: Suenag
                                                                                                                                                                                                                                                                                                                                                                                                                                    HYPOTHETICAL: NO ANTI-SENSE: NO FRAGMENT TYPE: 1 ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: (617) 523-6440
NFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
         CORRESPONDENCE ADDRESS:
ADDRESSEE: DIKE, BRONSTEIN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
STRANDEDNESS: sir-
                                               APPLICANT: Nishimura, Osamu
TITLE OF INVENTION: METHOD OF PRODUCING A 19P2 LIGAND
NUMBER OF SEQUENCES: 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: JP 06
FILING DATE: 24-MAR-1992
ATTORNEY/AGENT INFORMATION:
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MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
                                                                                                APPLICANT: Suenaga, Masato
APPLICANT: Moriya, Takeo
APPLICANT: Tanaka, Yoko
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: (617) 523-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: JP 09 FILING DATE: 26-APR-1991 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION DATA:
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TITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: RESNICK, DAVID S.
REGISTRATION NUMBER: 34:
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: FILING DATE: 22-APP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OPERATING SYSTEM: DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 130
CITY: BOSTON
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130 Water Street
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                ROBERTS & CUSHMAN, LLP
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RESULT 15
US-09-421-208-49
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Patent No. 62
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Best Local Similarity
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: US 09/:
APPLICATION NUMBER: US 09/:
FILING DATE: 26-JUN-1998
APPLICATION NUMBER: JP 172
FILING DATE: 27-JUN-1997
ATTORNEY/AGENT INFORMATION:
NAME: Conlin, David G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION FOR SEQ ID NO:
                                                                                                                                                            COUNTRY: USA
ZIF: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/0 FILING DATE: 26-JUN-1998 PRIOR APPLICATION DATA: APPLICATION NUMBER: JP 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Suenaga, Masato
APPLICANT: Moriya, Takeo
APPLICANT: Tanaka, Yoko
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Rel-ease #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 27-JUN-1997
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Nishimura, Osamu
TITLE OF INVENTION: METHOD OF PRODUCING A 19P2 LIGAND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
                                                                                                                               APPLICATION NUMBER: US/09/421,208 FILING DATE:
                                                                                                                                                                                                                                                                                                                                 STREET: 130 V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Conlin, David G.
REGISTRATION NUMBER: 27
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                    STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS:
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                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            45;
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                                                                                                                                                                                                                                                                                                                                                  130 Water Street
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                                                                                             US 09/105,678
                                                         JP 172118/1997
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Minimum DB seq length: 0
Maximum DB seq length: 2000000000
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Maximum Match 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being prinand is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                              Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Published Applications AA:*

1: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep:*

4: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*

6: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*

6: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*

7: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*

9: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*

9: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep:*

11: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep:*

12: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep:*

13: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep:*

14: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*

15: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*

16: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*

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17: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*

18: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*

19: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*

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Gapop 10.0 , Gapext 0.5
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                   0. US-09-901-938-24

2. US-10-379-334-24

1. US-09-940-601-3

US-09-802-365-2

1. US-09-802-365-4

1. US-09-806-856-2

1. US-09-806-856-2

1. US-09-184-708-2

1. US-10-184-708-2

1. US-10-395-541-2

1. US-10-395-541-3

1. US-10-131-965-5

1. US-10-131-965-5

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Sequence
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Sequence 24, Appl
Sequence 3, Appli
Sequence 2, Appli
Sequence 4, Appli
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Sequence 2, Appli
Sequence 4, Appli
Sequence 6, Appli
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                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 24
LENGTH: 134
TYPE: PRT
ORGANISM: Homo Sapiens
                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 45; Conserv
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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239
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16	15	15	12	12	12	12	12	12	12	12	12	H	11	1	10	10	10	9	v	9					11		5	15	15
US-10-075-446-17	US-10-108-195-1	US-10-081-347-28	US-10-347-177-9	US-10-315-431-28	0-131-	-10-123-481-	-10-035-	-1(-10-374-207-	-988-1	-10-189	-09-775-964-	-09-345-373-	-09-902-4	US-09-749-728B-7	US-09-886-856-8	US-09-886-856-6	9-425-021-1	9-251-263-1	802-365-	US-09-802-365-6	US-09-822-485-5	US-10-192-988-24	US-10-016-447-8	-09-820-596-	US-10-108-841B-1	-10-168-	-10-	US-10-108-195-4
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ALIGNMENTS

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RESULT 2
US-10-379-334-24
; Sequence 24, Application US/10379334
; Publication No. US20030181379A1
; GENERAL INFORMATION:
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Patent NO. US20020156001A1
GENERAL INFORMATION:
APPLICANT: ECONS, Michael
APPLICANT: WHITE, Kenneth
APPLICANT: STROM, Tim
APPLICANT: MEITINGER, Thomas
TITLE OF INVENTION: NOVEL FIBROBLAST GROWTH FACTOR (FGF23) AND METHODS FOR USE
FILE REFERENCE: 053884-5001
CURRENT APPLICATION NUMBER: US/09/901,938
CURRENT FILING DATE: 2001-07-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT FILING DATE: 2001-07-10
PRIOR APPLICATION NUMBER: 60/219,137
PRIOR FILING DATE: 2000-07-19
NUMBER OF SEQ ID NOS: 34
SOFTWARE: Patentin version 3.0
APPLICANT: ECONS, Michael
                                                                                                                                                                              100.0%; Score 239; DB 10; ilarity 100.0%; Pred. No. 2.8e-24; Conservative 0; Mismatches 0;
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                                                                                                                  US-09-802-365-2
                                                                                                                                            RESULT 4
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GENERAL INFORMATION:
APPLICANT: Whitehouse, Martha Jo
TITLE OF INVENTION: Methods and Compositions for the
                                                                   Sequence 2, Application US/09802365 Patent No. US20020032153A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 3, Application US/09940601
Publication No. US20030004319A1
                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
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CURRENT FILLING DATE: 2003-03-04
PRIOR APPLICATION NUMBER: US/09/901,938
PRIOR FILING DATE: 2001-07-10
PRIOR APPLICATION NUMBER: 60/219,137
PRIOR FILING DATE: 2000-07-19
PRIOR FILING DATE: 2000-07-19
NUMBER OF SEQ ID NOS: 34
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CURRENT FILING DATE: 2001-08-27
PRIOR APPLICATION NUMBER: 08/775,567
PRIOR FILING DATE: 1996-12-31
PRIOR FILING DATE: 1996-12-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Basilico, Claudio
APPLICANT: Delli Boyt, Pasquale
TITLE OF INVENTION: WAMMALIAN GROWTH FACTOR
FILE REFERENCE: 5986/13586-USC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: 07/177,506
PRIOR FILING DATE: 1988-04-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: 08/056,482
PRIOR PILING DATE: 1993-05-03
PRIOR APPLICATION NUMBER: 07/806,771
PRIOR FILING DATE: 1991-12-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 07/062,925 PRIOR FILING DATE: 1987-06-16
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                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 145
TYPE: PRT
ORGANISM: Bos taurus
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TYPE: PRT
ORGANISM: Homo Sapiens
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Similarity 100.0%; Pred. No. 2.8e-24;
45; Conservative 0; Mismatches 0;
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; LENGTH: 146
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-802-365-4
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Sequence 2, Application US/097713UZ
Patent NO. US20020072489A1
GENERAL INFORMATION:
APPLICANT: Whitehouse, Martha J.
TITLE OF INVENTION: Angiogenically Effective Unit Dose of FGF-2 and Method
TITLE OF INVENTION: of Use
FILE REFERENCE: 1296/12169US04
CURRENT APPLICATION NUMBER: US/09/771,302
CURRENT FILING DATE: 2001-01-26
PRIOR APPLICATION NUMBER: 09/385,114
PRIOR APPLICATION NUMBER: 60/104,102
PRIOR FILING DATE: 1999-08-27
PRIOR FILING DATE: 1998-08-10-13
PRIOR FILING DATE: 1998-10-13
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; ORGANISM: Bos
US-09-802-365-2
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Best Local Similarity 100.0%;
Matches 45; Conservative 0
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LENGTH: 146
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CURRENT FILING DATE: 2001-03-09
PRIOR APPLICATION NUMBER: 60/188,480
PRIOR FILING DATE: 2000-03-10
PRIOR PILING DATE: 2000-03-10
PRIOR APPLICATION NUMBER: 60/203,415
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CURRENT FILLING DATE: 2001-03-09
ERIOR APPLICATION NUMBER: 60/188,480
PRIOR FILING DATE: 2000-03-10
PRIOR APPLICATION NUMBER: 60/203,415
PRIOR PILING DATE: 2000-05-11
NUMBER OF SEQ ID NOS: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Whitehouse, Martha Jo
TITLE OF INVENTION: Methods and Compositions for the
TITLE OF INVENTION: Treatment and Prevention of Erectile Dysfunction
FILE REFERENCE: 1671.003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: FastSEQ for Windows Version 4.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR FILING DATE: 2000-05-11
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45; Conserv
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Pred. No. 3.1e-24;
D; Mismatches 0;
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GENERAL INFORMATION:
APPLICANT: Whitehouse, Martha Jo
ITILE OF INVENTION: Methods and Compositions for the
ITILE OF INVENTION: Treatment of Peripheral Artery Dise
ITILE OF INVENTION: Treatment of Peripheral Artery Dise
ILE REFERENCE: PP16090.004
CURRENT APPLICATION NUMBER: US/09/886,856
CURRENT FILING DATE: 2001-06-21
PRIOR APPLICATION NUMBER: 60/213,504
PRIOR APPLICATION NUMBER: 60/264,572
PRIOR APPLICATION NUMBER: 60/264,572
PRIOR APPLICATION NUMBER: 60/276,549
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-886-856-4
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Best Local Similarity 100.
45; Conservative
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Patent No. US20020115603A1
GENERAL INFORMATION:
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Matches
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                                              SEQ ID NO 4
LENGTH: 146
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Patent No. US20020115603A1
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PRIOR APPLICATION NUMBER: 60/264,572
PRIOR FILING DATE: 2000-01-26
PRIOR APPLICATION NUMBER: 60/276,549
PRIOR FILING DATE: 2001-03-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/886,856
CURRENT FILING DATE: 2001-06-21
PRIOR APPLICATION NUMBER: 60/213,504
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SOFTWARE: FastSEQ for Windows Version
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                                                                                           SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                      NUMBER OF SEQ ID NOS:
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ORGANISM: Bos taurus
ORGANISM: Homo sapiens
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45; Conserv
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Query Match
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US-10-395-541-2
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US-10-395-541-2
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CURRENT FILING DATE: 2002-06-28
PRIOR APPLICATION NUMBER: US/09/385,114
PRIOR TILING DATE: 1999-08-27
PRIOR APPLICATION NUMBER: 60/104,103
PRIOR FILING DATE: 1998-10-13
PRIOR PILING DATE: 1998-10-13
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                                                                                                                                                                                                                                                                      SEQ ID NO 2
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Publication No. US20030171294A1
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Matches 45; Conserv
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Best Local :
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                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: US/09/637,471
PRIOR FILING DATE: 2000-08-11
NUMBER OF SEQ ID NOS: 6
                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Landolfo, Kevin
APPLICANT: Kavanaugh, W.
TITLE OF INVENTION: DOSE OF ANGIOGENIC FACTOR AND METHOD OF ADMINISTERING TO IMPROVE
TITLE OF INVENTION: MYOCARDIAL BLOOD FLOW
FILE REFERENCE: 1606.002/12443US02
CURRENT FPPLICATION NUMBER: US/10/395,541
CURRENT FILING DATE: 2003-03-24
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APPLICANT: Annex, Bria
APPLICANT: Landolfo, I
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TYPE: PRT
ORGANISM: Bovis bovinus
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Pred. No. 3.1e-24;
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RESULT 13
US-10-131-965-5
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US-10-131-965-3
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US-10-395-541-6
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SEQ ID NO 3
LENGTH: 146
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Publication No. US20020165160A1
GENERAL INFORMATION:
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Best Local Similarity
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                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Human FGF-2
-10-131-965-3
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APPLICANT: Landolfo, Kevin
APPLICANT: Landolfo, W.
APPLICANT: Kavanaugh, W.
TITLE OF INVENTION: DOSE OF ANGIOGENIC FACTOR AND METHOD OF ADMINISTERING TO IMPROVE
TITLE OF INVENTION: MYOCARDIAL BLOOD FLOW
FILE REFERENCE: 1666.002/12443US02
CURRENT APPLICATION NUMBER: US/10/395,541
CURRENT FILING DATE: 2003-03-24
CURRENT FILING DATE: 2003-03-24
                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Whitehouse, Martha J.
APPLICANT: Kavanaugh, Michael W.
TITLE OF INVENTION: Angiogenically Effective Unit Dose of FGF and Method TITLE OF INVENTION: Administering
FILE REFERENCE: 1296/12169US05
CURRENT APPLICATION NUMBER: US/10/131,965
CURRENT FILING DATE: 2002-04-25
PRIOR APPLICATION NUMBER: US/09/417,721
PRIOR FILING DATE: 1999-10-13
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PRIOR FILING DATE: 2000-08-11
NUMBER OF SEQ ID NOS: 6
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NUMBER OF SEQ ID NOS: 15
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PRIOR FILING DATE: 1998-10-13
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ORGANISM: Mature Human FGF-2
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                                                                                                                                                             Conservative
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Pred. No. 3.1e-24;
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RESULT 15 US-10-108-195-3

Sequence 3, App Publication No.

Application US/10108195 No. US20030008820A1

GENERAL INFORMATION:

Venkataraman, Ganesh

Chi-Pong

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US-10-108-195-2
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SEQ ID NO 2
LENGTH: 146
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APPLICANT: Venka
APPLICANT: Shriv
APPLICANT: Raman
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Publication No. US20030008820A1
GENERAL INFORMATION:
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Publication No. US20020165160A1
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TITLE OF INVENTION: Methods and Products Related
FILE REFERENCE: M00656/70076
CURRENT APPLICATION NUMBER: US/10/108,195
CURRENT FILING DATE: 2002-03-27
PRIOR APPLICATION NUMBER: US 60/279,165
PRIOR FILING DATE: 2001-03-27
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PRIOR PILING DATE: 1999-10-13
PRIOR APPLICATION NUMBER: 60/104,103
PRIOR FILING DATE: 1998-10-13
NUMBER OF SEQ ID NOS: 15
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APPLICANT: Kavanaugh, Michael W.
TITLE OF INVENTION: Angiogenically
TITLE OF INVENTION: Administering
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILE REFERENCE: 1296/12169USO5
CURRENT APPLICATION NUMBER: US/10/131,965
CURRENT FILING DATE: 2002-04-25
                                                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS: 15
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TYPE: PRT
ORGANISM: bovine FGF-2
                                                                                                                                                      ORGANISM: Artificial Sequence FEATURE: OTHER INFORMATION: Mutant of Native FGF2 with 9 N-terminal Residues Deleted
                                                                                                                                                                                                              TYPE: PRT
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                               YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
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100.0%; Pr
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                                                                                    Score 239; DB 15;
Pred. No. 3.1e-24;
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Pred. No. 3.1e-24;
                                                                     Mismatches
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                                                                                                     Length 146;
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APPLICANT: Shriver, Zachary
APPLICANT: Raman, Rahul
APPLICANT: Sasisekharan, Ram
TITLE OF INVENTION: Methods and Products Related to PGF Dimerization
FILE REFERENCE: M00656/70076
FILE REFERENCE: M00656/70076
CURRENT APPLICATION NUMBER: US/10/108,195
CURRENT FILING DATE: 2002-03-27
PRIOR RILING DATE: 2001-03-27
RAPPLICATION NUMBER: US 60/279,165
PRIOR FILING DATE: 2001-03-27
RAPPLICATION NUMBER: US 60/279,165
FRIOR FILING DATE: 2001-03-27
RAPPLICATION: MUMBER: US 60/279,165
FRIOR FILING DATE: 2001-03-27
RAPPLICATION: Mutant of Native FGF2 with 9 N-terminal Residues Deleted
TYPE: PAT: ORGANISM: Artificial Sequence
FEATURE:
FRIOR FILING DATE: 2001-03-27
RAPPLICATION: Mutant of Native FGF2 with 9 N-terminal Residues Deleted
US-10-108-195-3
US-1
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GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model
Run on: January 30, 2004, 11:34:23; Search time 19.3846 Seconds (without alignments)
223.249 Million cell updates/sec
Title: US-09-266-543-1
Perfect score: 239
Sequence: 1 YCKNGGFFLRIHPDGRVDGV......PHIKLQLQAEERGVVSIKGV 45
Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5
Searched: 283308 seqs, 96168682 residues
Total number of hits satisfying chosen parameters: 283308
Minimum DB seq length: 0
Maximum DB seq length: 200000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Database :

PIR_76:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

SUMMARIES

29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	. 9	89	7	0	ហ	.4	ω	N	_		Result
84.5	85	90	90	94	94	94	94.5	96	102	103	109	146	148	148	153	154	156	156	156	199	231	232	238	238	239	239	239	239		Score
35.4	٠	7.	37.7	9	٥	ف	39.5		42.7	43.1	45.6	61.1	61.9	61.9	64.0	64.4	65.3	65.3	65.3	83.3	96.7	97.1	99.6	99.6	100.0	•	100.0	100.0		Query
220	206	267	202	266	264	206	256	194	208	208	60	155	155	152	155	155	155	155	155	155	164	189	154	154	210	157	146	137		Length
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65.5	66.5	67.5	67.5	69.5	69.5	70.5	75.5	75.5	76.5	77.5	79	79	82	82	83	
27.4	27.8	28.2	28.2	29.1	29.1	29.5	31.6	31.6	32.0	32.4	33.1	33.1	34.3	34.3	34.7	
194	194	207	207	208	208	121	212	211	237	208	239	192	187	168	245	
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A36301	148610	JC5941	JC5940	A48137	S66486	S68145	JC7511	JC7353	S39582	JC7082	S04742	S54407	S23595	JG0184	TVMST2	
ribroblast growen	keratinocyte growt	fibroblast growth	transforming prote	fibroblast somatot	fibroblast growth	embryonic fibrobla	embryonic fibrobla	fibroblast growth	transforming prote	-						

ALIGNMENTS

Query Match 100.0%; Score 239; DB 1; Length 146; Best Local Similarity 100.0%; Pred. No. 2.9e-24;. Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Qy 1 YCKNGGFFLRIHPDGRVDGVREKSDFHIKLQLQAEERGVVSIKGV 45	RESULT 2 S00185 S00185 S00185 South factor - sheep hasic fibroblast growth factor - sheep N;Alternate names: prostatropin C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep) C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999 C;Accession: S00185 R;Simpson, R.J.; Moritz, R.L.; Lloyd, C.J.; Fabri, L.J.; Nice, E.C.; Rubira, M.R.; Burgel FEBS Lett. 224, 128-132, 1987 A;Tile: Primary structure of ovine pituitary basic fibroblast growth factor. A;Reference number: S00185; MUID:88055577; PMID:3678486 A;Accession: S00185 A;Accession: S00185 A;Accession: S00185 C;Superfamily: fibroblast growth factor C;Keywords: growth factor; heparin binding; mitogen F;18-22/Region: heparin binding #status predicted F;107-110/Region: heparin binding #status predicted	RESULT 1 146711 146711 C;Species: Oryctolagus cuniculus (domestic rabbit) C;Species: Oryctolagus cuniculus (domestic rabbit) C;Datte: 14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change 16-Jul-1999 C;Datte: 14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change 16-Jul-1999 C;Accession: 146711 R;Winkles, J.A.; Friesel, R.; Alberts, G.F.; Janat, M.F.; Liau, G. Am. J. Pathol. 143, 518-527, 1993 A;Title: Elevated expression of basic fibroblast growth factor in an immortalized rabbit A;Reference number: 146711; MUID:93143209; PMID:8342599 A;Accession: 146711 A;Status: preliminary; translated from GB/EMBL/DDBJ A;Cross-references: GB:L12034; NID:9165014; PIDN:AAA31248.1; PID:9165015 C;Superfamily: fibroblast growth factor Query Match Best Local Similarity 100.0%; Score 239; DB 2; Length 137; Best Local Similarity 100.0%; Pred. No. 2.7e-24; Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0; 1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLOLOAEERGVVSIKGV 45

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A;Molecule type: protein
A;Residues: 12-25,27-35,'X',37-40 <GOS>
A;Experimental source: adrenal gland
R;Esch, F.; Baird, A.; Ling, N.; Ueno, N.; Hi
Proc. Natl. Acad. Sci. U.S.A. 82, 6507-6511,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Bertolini, J.; Hearn, M.T.W.
MOI. Cell. Endocrinol. 51, 187-199, 1987
A;Title: Isolation, characterisation and tissue localisation
A;Reference number: A61550; MUID:87247652; EMID:3596000
A;Accession: A61550
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Cold Spring Harb. Symp. Quant. Biol. 51, 657-668, 1986
A;Title: Human basic fibroblast growth factor: nucleotide sequence, genomic organization A;Reference number: A90924; MUID:87217066; PMID:3472745
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C;Date: 13-Aug-1986 #sequence revision 02-Jun-1995 #text change 24-Nov-1999
C;Accession: A24663; A32878; A3784; A61550; A61551; A60310; A61094; A01386;
R;Abraham, J.A.; Mergia, A.; Whang, J.L.; Tumolo, A.; Friedman, J.; Hjerrild, Science 233, 545-548, 1986
                                                                                                                                                                                                                                               A;Note: the amino end of this form was blocked; the peptide composition matched what was R;Gospodarowicz, D.; Baird, A.; Cheng, J.; Lui, G.M.; Esch, F.; Bohlen, P. Endocrinology 118, 82-90, 1986
A;Title: Isolation of fibroblast growth factor from bovine adrenal gland: physicochemics A;Reference number: A61094; MUID:86081530; PMID:3940857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;Ueno, N.; Baird, A.; Esch, F.; Ling, N.; Guillemin, R. Biochem. Biophys. Res. Commun. 138, 580-588, 1986
A;Tille: Isolation of an amino terminal extended form of basic fibroblast growth A;Reference number: A24819; MUID:86295737; PMID:3741423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: protein
A; Residues: 16-35 <BER >
R; Ueno, N.; Baird, A.; Esch, F.; Ling, N.; Guillemin, R.
R; Ueno, N. 18 aird, A.; Esch, 189-194, 1987
Mol. Cell. Endocrinol. 49, 189-194, 1987
A; Title: Isolation and partial Characterization of basic fibroblast
A; Reference number: A61551; MUID:87162856; PMID:3556754
A; Accession: A61551
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A; Residues: 1-14 < MIL>
A; Note: demonstration of a possible alternative initiator
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Title: Nucleotide sequence of a bovine clone encoding the angiogenic protein, basic fi A;Reference number: A94290; MUID:86261806; PMID:2425435 A;Accession: A24663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              basic fibroblast growth factor precursor - bovine (fragment)
N;Alternate names: bFGF; kidney-derived growth factor; prostatropin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Molecule type: protein
A;Residues: 23-35,'X',37-42 <UEN>
A;Experimental source: 11ver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Reference number: A60310; MUID:87119165; PMID:3809608
A;Accession: A60310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Note: this form appears to be identical to the renal form R;Ueno, N.; Baird, A.; Esch, F.; Shimasaki, S.; Ling, N.; Guillemin, R. Regul. Pept. 16, 135-145, 1986
A;Title: Purification and partial characterization of a mitogenic factor from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Molecule type: protein
A;Residues: 27-35,'X',37-41 <UE3>
A;Experimental source: testes
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;Residues: 3-157 <ABR>
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                                         Hill,
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                                              Denoroy,
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YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45

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(Reywords: alternative splicing; angiogenesis; blocked amino end; growth factor; hepari F;1-157/Product: basic fibroblast growth factor, uterine form #status predicted <MAT1> F;4-157/Product: basic fibroblast growth factor, pituitary gamma form #status experiment F;12-157/Product: basic fibroblast growth factor, pituitary alpha form #status experiment F;16-157/Product: basic fibroblast growth factor, pituitary short form #status predicted F;23-157/Product: basic fibroblast growth factor, pituitary short form #status predicted F;23-157/Product: basic fibroblast growth factor, repal form #status experimental <MAT6 F;27-157/Product: basic fibroblast growth factor, renal form #status experimental <MAT6 F;29-33,118-121/Region: heparin binding #status predicted F;4/Modified site: blocked amino end (Ala) (in mature form pituitary gamma) (probably ac
                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: protein
A;Residues: 12-26 <BONN
C;Comment: The acidic and basic fibroblast growth factors are the major endothelial-cell
ell types in vitro (although bFGF is 30-100 times more potent than aFGF in stimulating to
C;Comment: This protein binds heparin more strongly than does aFGF.
C;Superfamily: fibroblast growth factor
C;Superfamily: fibroblast growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Reference number: A22054; MUID:84298139; PMID:6591194 A;Accession: A22054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R;Bohlen, P.; Baird, A.; Esch, F.; Ling, N:; Gospodarowicz, I Proc. Natl. Acad. Sci. U.S.A. 81, 5364-5368, 1984
A;Title: Isolation and partial molecular characterization of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Regul. Pept. 12, 201-213, 1985
A;Title: Isolation and partial characterization of an endothelial cell growth factor fro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Title: Primary structure of bovine pituitary basic fibroblast growth factor (FGF) A;Reference number: A01386; MUID:86016731; PMID:3863109 A;Accession: A01386
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: protein
A; Residues: 27-35, 'X', 37-43 <BAI>
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Baird, A.; Esch, F.; Boehlen, P.; Ling,
egul Pept 12, 201-213, 1985
Matches
                                     Best
                                                                  Query Match
                                     Local
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12-157 <ESC>
                                     Similarity
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Conservative
                                     100.0%;
                                                                      100.0%;
   0;
           Score 239; Db .,
No. 3.2e-24;
   Mismatches
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                                                                      Length 157;
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A32398
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A32398
Asia fibroblast growth factor precursor, 22.5K form - human
N;Alternate names: bFGF; fibroblast growth factor 2; prostatic growth factor; prostatrop
N;Contains: basic fibroblast growth factor, 18K form
C;Species: Homo sapiens (man)
C;Date: 31-Jul-1989 #sequence revision 31-Dec-1993 #text change 21-Jul-2000
C;Accession: A32398; A61537; A2642; B32878; S00297; A54316; B34316; A33624; A25824; B24
R;Prats, H.; Kaghad, M.; Prats, A.C.; Klagsbrun, M.; Lelias, J.M.; Liauzun, P.; Chalon, |
Proc. Natl. Acad. Sci. U.S.A. 86, 1836-1840, 1989
A;Title: High molecular mass forms of basic fibroblast growth factor are initiated by all
A;Reference number: A32398; MUID:89184522; PMID:2538817
A;Accession: A32398
A;Molecule type: mRNA
A;Residues: 1-210 <PRA>
A;Kesidues: 1-210 <PRA>
A;Coss. Testerences: GB;J04513; NID:g183083; PIDN:AAA52531.1; PID:g459811
R;Shibata, F.; Baird, A.; Florkiewicz, R.Z.
Growth Factors 4, 277-287, 1991
A;Reference number: A61537; MUID:92110035; PMID:1764264
A;Reference number: A61537; MUID:92110035; PMID:1764264
A;Residues: 1-114 <SHI>A;Rosesion: A61537; MUID:92110035; PMID:1764264
A;Residues: 1-114 SHI
A;Rosesion and expression of cDNA encoding human basic fibroblast growth factor.
A;Reference number: A26642; MUID:87162468; PMID:2435575
A;Reference number: A26642; MUID:87162468; PMID:2435575

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A;RCGEBBACH. Protein
A;Rolecule type: protein
A;Residues: 65-88,'X',90-98,'X',100 <GAU>
A;Residues: 65-88,'X',90-98,'X',100 Moscatelli, D.; Presta, A;Residues: 65-88,'X', 100-98,'X', 100 Moscatelli, D.; Presta, R;Sommer, A.; Brewer, M.T.; Thompson, R.C.; Moscatelli, D.; Presta, Biochem. Biophys. Res. Commun. 144, 543-550, 1987
Biochem. Biophys. Res. Commun. 144, 543-550, 1987
A;Title: A form of human basic fibroblast growth factor with an external fibroblast growth factor with a fibroblast growth fa
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A;Molecule type: mRNA
A;Residues: 56-210 <ABR>
A;Residues: 56-210 <ABR>
A;Residues: The authors translated the codon GAA for residue 108 as
A;Note: the authors translated the codon GAA, Mergia, A.; Friedman,
A;Note: T.A.; Whang, J.L.; Tumolo, A.; Mergia, A.; Friedman,
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A;Title: Human basic fibroblast growth factor: nucleotide sequence, genomic organization A;Reference number: A90924; MUID:87217066; PMID:3472745
A;Accession: B32878
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A;Residues: 56-210 <KUR>
A;Cross-references: GB:MA7968; NID:g182562; PIDN:AAA52448.1; PID:g182563
P-Ahraham. J.A.; Whang, J.L.; Tumolo, A.; Mergia, A.; Fiddes, J.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Experimental source: prostate R;Gimenez-Gallego, G.; Conn, G.; Hatcher, V.B.; Thomas, K.A. R;Gimenez-Gallego, G.; Conn, G.; 541-548, 1986 Biochem. Biophys. Res. Commun. 135, 541-548, 1986 A;Title: Human brain-derived acidic and basic fibroblast growth A;Reference number: A90122; MUID:86186784; PMID:3964259 A;Accession: B24243
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A;Title: Amino-terminal sequence of a large form of basic fibroblast growth factor A;Reference number: A25824; MUID:87156686; PMID:2435284
A;Accession: A25824
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A;Title: Characterization of high-molecular-mass forms of basic fibroblast
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A;Title: Human basic fibroblast growth factor: nucleotide A;Reference number: S00297; MUID:87053817; PMID:3780670
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FEBS Lett. 204, 203-207, 1986
A;Title: Partial molecular characterization of endothelial cell mitogens
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A;Residues: 65-102,'X',104-105 <GIM>
A;Experimental source: brain
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A; Rosidues: 'XXX',19','X',21-29 <SH2>
A; Rosidues: 'XXX',19','X',21-29 <AGE
A; Rote: sequence extracted from NCBI backbone (NCBIP:71594)
A; Peige, J.J.; Bradley, J.D.; Fryburg, K.; Farris, J.; Cous
J. Cell Biol. 109, 3105-3114, 1989
A; Title: Differential effects of heparin, fibronectin, and
A; Raference number: A33624; MUID:90078343; PMID:2592418
A; Accession: A33624
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A;Accession: A54316
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;Molecule type: protein
;Residues: 'XX',86-88,'X',90-91,'X',93-95 <SH3>
;Experimental source: C-Li21 hepatocellular carcinoma cell
;Note: sequence extracted from NCBI backbone (NCBIP:71595)
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;Residues: 57-210 <FEI>
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A;Gene: GDB:FGF2; FGFB
A;Cross-references: GDB:119910; OMIM:134920
A:Map position: 4q25-4q27
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A;Title: Multivalent ligand-receptor binding interactions in the fibroblast gr A;Reference number: A55784; MUID:94347757; PMID:7520751
A;Accession: B55784
                                                                                                                                                                                                                                                                                                                                                                                         C;Date: 21-May-1990 #sequence_revision 21-May-1990 #text_change 16-Jul-1999 (;Accession: A31674; S00876; S24309 R;Shimasaki, S; Emoto, N.; Koba, A.; Mercado, M.; Shibata, F.; Cooksey, K., Biochem. Biophys. Res. Commun. 157, 256-263, 1988 A;Title: Complementary DNA cloning and sequencing of rat ovarian basic fibro A;Reference number: A31674; MUID:89061721; PMID:3196337
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A;Title: Purification and characterization of the 210-amino acid A;Reference number: S46253; MUID:94320639; PMID:8045296
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A;Cross-references: GB:S47380; NID:g256535; PIDN:AAD13853.1; PID:g4261553
A;Experimental source: granulosa cells
A;Cross-references: EMBL:X07285; R;El-Husseini, A.E.D.; Paterson, Biochim. Biophys. Acta 1131, 314-
                                                                                A; Molecule type: mRNA
A; Residues: 1-154 < KUR>
                                                                                                                                        A; Accession: S00876
                                                                                                                                                                R;Kurokawa, T.; Seno, M.; Igarashi, K.
Nucleic Acids Res. 16, 5201, 1988
A;Tille: Nucleotide sequence of rat basic fibroblast growth
A;Reference number: S00876; MUID:88262516; PMID:3387229
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A;Residues: 1-154 <SHI>
A;Cross-references: GB:M22427; NID:g204285;
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A; Residues: 39-53; 65-88 < PAT>
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A;Title: Reverse transcription with nested polymerase chain
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NID:g56203; PIDN:CAA30265.1;
J.A.; Myal, Y.; Shiu, R.P.C.
-316, 1992
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                                                     PID:g56204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cooksey, K.; Baird, A.;
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A;Residues: 95-128 <MIT>
A;Cross-references: EMBL:X56804;
C;Superfamily: fibroblast growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 1-154 <HEB>
A;Cross-references: GB:M30644; NID:g193296; PIDN:AAA37621.1; PID:g309239
C:Superfamily: fibroblast growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Title: Isolation of cDNAs encoding four mouse FGF family members and characterization A;Reference number: A37360; MUID:90201563; PMID:2318343 A;Accession: C37360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                          Development 109, 387-393, 1990
A;Title: Fibroblast growth factor during mesoderm induction in the early chick embryo.
A;Reference number: S23636; MUID:90382254; PMID:2401202
A;Accession: S23636
                                                                                                                                                                                               R;Mitrani, E.; Gruenbaum, Y.; 9
Development 109, 387-393, 1990
                                                                                                                                                                                                                                                                                                                                                              A;Title: Expression of alternatively spliced bFGF first coding A;Reference number: A48834; MUID:93246053; PMID:7683281 A;Accession: A48834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              basic fibroblast growth factor - chicken
C;Species: Gallus gallus (chicken)
C;Datc: 01-Dec-1993 #sequence_revision 18-Nov-1994 #text_change 16-Jul-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;Hebert, J.M.; Basilico, C.; Goldfarb, M.; Haub, O.; Martin, G. Dev. Biol. 138, 454-463, 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          basic fibroblast growth factor - mouse
C;Species: Mus musculus (house mouse)
C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 16-Jul-1999
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A;Accession: S24309
                                                                            A; Molecule type: DNA
                                                                                                    A;Status: preliminary
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A; Residues: 35-154 <ELH>
                                                                                                                                                                                                                                           A; Note: sequence extracted
                                                                                                                                                                                                                                                                                          A;Molecule type: nucleic acid
A;Residues: 1-189 <BOR>
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                                                                                                                                                                                                                                                                                                                                                                                                                                      Borja, A.Z.; Meijers, C.
v. Biol. 157, 110-118, 1
                                                                                                                                                                                                                                                                      Experimental source: embryo
                                                                                                                                                                                                                                                                                                                                        Status: preliminary
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Accession: A48834; S23636
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YCKNGGFFLRIHPDGRVDGVREKSDPHVKLQLQABERGVVSIKGV
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from NCBI backbone (NCBIN:131000, NCBIP:131001)
from NCBI backbone (NCBIN:131000, NCBIP:131001)
       NID:g62855; PIDN:CAA40139.1; factor
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Pred. No. 4.2e-24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 238; DB 2;
Pred. No. 4.2e-24;
1; Mismatches 0
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                          PID:g62856
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RESULT 10 A60721

acidic fibroblast growth factor - golden hamster

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A;Reference number: A29618; MUID:88052890; A;Accession: A29618 'A;Molecula ---
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A40117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        basic fibroblast growth factor - African clawed frog
C;Species: Xenopus laevis (African clawed frog)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
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                                ঠ
                                                                                                                                            C; Keywords: growth factor
                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 95-110,112-155 <KI2>
                                                                                                                                                                                                                                                      A; Title: Synergistic
                                                                                                                                                                                                                                                                                            A;Cross-references: GB:M18067; NID:g214177; PIDN:AAA49726.1; PID:g214178; GB:M21092 R;Kimelman, D.; Kirschner, M.
                                                                                                                                                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 1-155 < KIM>
                                                                                                                                                                                                                                                                                                                                                                                   Science 242, 1053-1056, 1988
A;Title: The presence of fibroblast growth
A;Reference number: A40117; MUID:89058621;
A;Accession: A40117
                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Accession: A40117; A29618
R;Kimelman, D.; Abraham, J.A.
Science 242, 1053-1056, 1988
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C;Superfamily: fibroblast growt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: DNA
A; Residues: 1-164 < KUS>
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A; Accession: S31622
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C; Accession: S31622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Species: Monodelphis domestica
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 12-Apr-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             basic fibroblast growth factor - short-tailed opossum (Monodelphis domestica) (fragment)
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Best Local :
                                                                                                                                                                 Superfamily: fibroblast growth
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Best Local Similarity
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                    1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
                                                                                         Similarity
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YCKNGGFFLRINSDGRVDGSRDKSDSHIKLQLQAVERGVVSIKGI
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                                                                        Conservative
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                                                                                         83.3%;
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97.8%;
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                                                                                                                                                                 factor
                                                                      Score 199; DB 1;
Pred. No. 6.3e-19;
3; Mismatches 4
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Pred. No. 3.9e-23;
2; Mismatches 0
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Pred. No. 3.3e-23;
1; Mismatches 0
                                                                                                                                                                                                                                         by FGF and TGF-beta and the identification PMID:3479265
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                                                                                                          Length 155;
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A; Molecule type:
A; Residues: 1-155
C; Superfamily: fi
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(/Species: Mesocricetus auratus (golden hamster)
(/Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
(/Accession: A60721
R/Hall, J.A.; Harris, M.A.; Malark, M.; Mansson, P.E.; Zhou, H.; Harris, S.E.
J. Cell. Biochem. 43, 17-26, 1990
A;Title: Characterization of the hamster DDT-1 cell aFGF/HGBF-I gene and cDNA and A,Reference number: A60721; MUJD:90270291; PMID:1693366
A;Accession: A60721
A;Cross-references: GB:M30641; NID:g193284; PIDN:AAA37618.1; PID:g309236 R;Maddai, F.; Hackshaw, K.V.; Chiu, I.M. Gene 179, 231-236, 1996 R;Title: Cloning and characterization of the mouse Fgf-1 gene. A;Reference number: JC5231; MVID:97128312; PMID:8972905 A;Accession: JC5231
                                                                                                                                                                                                                                                                      C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 16-Jul-1999 (c;Accession: D37360; JCS231
R;Hebert, J.M.; Basilico, C.; Goldfarb, M.; Haub, O.; Martin, G.R.
Dev. Biol. 138, 454-463, 1990
A;Title: Isolation of cDNAs encoding four mouse FGF family members and characteristics.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;Goodrich, S.P.; Yan, G.C.; Bahrenburg, K.; Mansson, P.E.
Nucleic Acids Res. 17, 2867, 1989
A;Title: The nucleotide sequence of rat heparin binding growth factor 1 (HBGF-1).
A;Reference number: S04147; MUID:89240051; PMID:2470029
A;Accession: S04147
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C;Superfamily: fibroblast growth factor
C;Keywords: growth factor; heparin binding
                                                                                                                                                                                                                 A;Reference number: A37360; MUID:90201563; PMID:2318343
A;Secession: D37360
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N;Alternate names: heparin-binding growth factor 1
C;Species: Rattus norwegicus (Norway rat)
C;Date: 28-Feb-1990 #sequence_revision 28-Feb-1990 #text_change
C;Accession: S04147
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S04147
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                                                                                                                                                 A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-155 <HEB>
                                                                                                                                                                                                                                                                                                                                                                                                                          acidic fibroblast growth factor - mouse N;Alternate names: aFGF; FGF-1
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Best Local S
Matches 30
                                                                                                                                                                                                                                                                                                                                                                                                          Species: Mus musculus (house mouse)
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Best Local
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Pred. No. 3.2e-13;
3; Mismatches 11
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A;Cross-references: GB:S63263; NID:g234372; PIDN:AAB19629.1; PID:g234373 R;Risau, W.; Gautschi-Sova, P.; Boehlen, P. EMBO J. 7, 959-962, 1988 EMBO J. 7, 959-962, 1988 A;Title: Endothelial cell growth factors in embryonic and adult chick brakeference number: S02639; NUID:88296438; PMID:3402441 A;Accession: S02639
                                                                               C; Superfamily: fibroblast C; Keywords: growth factor
                                                                                                                                                                                                                                                                                                                                             A;Title: Differentiating and mature neurons express the acidic fibroblast growth A;Reference number: A60130; MUID:91347925; PMID:1715259 A;Accession: A60130
                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Species: Gallus gallus (chicken)
C;Date: 03-Mar-1993 #secquence_revision 03-Mar-1993 #text_change 16-Jul-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Introns: 57/1
C; Superfamily:
                                                                                                  A;Residues: 25-30,'X',32-44,'X',46-48 <RIS>
C:Superfamily: fibroblast growth factor
                                                                                                                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 1-155 < SCH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      acidic fibroblast growth factor - chicken N;Alternate names: endothelial cell growth
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A;Title: Primary structure of ovine fibroblast growth factor-1 deduced by protein and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 17-Jun-1998 #sequence_revision 10-Jul-1998 #text_change 19-Jan-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                          C;Accession: A60130; S02639
R;Schnuerch, H.; Risau, W.
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                                                                                                                                          A; Molecule type: protein
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                  Query Match
Best Local Similarity
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lopment 111, 1143-1154, 1991
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5; Mismatches
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Pred. No. 5.
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.2e-13;
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Qy 1 YCKNGGFFERIHPDGRVDGVEEKSDPHIKLOLOAREQVYSIK 43
Db 30 YCSNGGHFERILPDGRVDGTTDRSDQHTQLQLSAEDVGEVYIK 72

RESULT 15
JH0476
acidic fibroblast growth factor - pig (fragment)
C.Species Sus screfa domestica (domestic pig)
C.Pater 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 16-Jul-1999
C.Accession: JH0476; S20072
C.Pater 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 16-Jul-1999
C.Accession: JH0476; S20072
R.Schmidt, M.; Sharma, H.S.; Schott, R.J.; Schaper, W.
Bicchem. Biophys. Res. Commun. 180, 853-859, 1991
A.;Title: Amplification and sequencing of mRNA encoding acidic fibroblast growth factor
A.;Reference number: JH0476; MUID:92062117; PMID:1719973
A.;Accession: JH0476
A.;Acc
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Title: Perfect score:

Run on:

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Scoring table:

43

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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Gapop 10.0 , Gapext 0.5
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P03969 bos taurus
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FGF2_RABIT
ID FGF2_RABIT
                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                           Pfam; PF00167; FGF; 1.

PRINTS; PR00262; ILLIBGF.
ProDom; PD000831; IL1 HBGF; 1.

SMART; SM00442; FGF; 1.

PROSITE; PS00247; HBGF FGF; 1.

GTOWTH factor; Mitogen; Anglogenesis; Heparin-binding.
BINDING 18 10 HEPARIN (POTENTIAL).
BINDING 107 110 HEPARIN (POTENTIAL).

NON TER 137 137
SEQUENCE 137 AA; 15418 MW; OD9EE457B88E8C51 CRC64;
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137
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Regult No.

110 HEPARIN (POTENTIAL). 137 15418 MW; OD9EE457B88E8C51 CRC64;

100.0%;

Score 239; DB 1; Length 137; Pred. No. 3.3e-25;

Database :

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	054769	043320	P36364	P54130	P31371	Q91875	035565	Q9hct0	Q9np95	P36386	P70492	015520
	rattus norv	homo sapien	rattus norv	mus musculu	homo sapien	xenopus lae	mus musculu	homo sapien	homo sapien	xenopus lae	rattus norv	homo sapien

ALIGNMENTS

PRT;

137 B

ັດ i	P48799;
ij	1996 (Rel.
ĭ	(Rel. 33,
ĭ	notation update)
ž či	Heparin-binding growth factor 2 (HBGF-2) (Basic fibroblast growth
ž	
ŏ	Oryctolagus cuniculus (Rabbit).
റ്	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
ñ	Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
×	NCBI_TaxID=9986;
Z	[1]
õ	SEQUENCE FROM N.A.
ຄ	STRAIN=New Zealand white; TISSUE=Smooth muscle;
×	MEDLINE=93343209; PubMed=8342599;
S	Winkles J.A., Friesel R., Alberts G.F., Janat M.F., Liau G.;
¥ 6	"Elevated expression of basic fibroblast growth factor in an
Ë	Am. J. Pathol. 143:518-527(1993).
, y	
ל כֿ	VITED THERE ARE CLEAR IN THE TISSUED LOCATION LINE OF THE TISSUED LOCATION TO
io.	CONCENTRATION OF THESE 2 GROWTH FACTORS.
റ്	-!- SUBUNIT: Monomer.
ດີດີ	-!- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES
റ്	-!- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
ដ	
ń	This SWISS-PROT entry is copyright. It is produced through a collaboration
i 7	between the Swiss Institute of Bioinformatics and the EMBL outstation -
ה ה	use by non-profit institutions as long as its content is in no way
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ñ	or send an email to license@isb-sib.ch).
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Ħ	EMBL; L12034; AAA31248.1;
Ħ	PIR; 146711; 146711.
Ä	HSSP; P09038; 1BFF.
į	incerero; renovasas; ili hage.

RESULT FGF2_BC

LT 2 BOVIN FGF2_I

BOVIN

FGF2

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24 μ 45;

Matches

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EMBL

a collaboration

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FAMILY

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factor.";
Regul. Pept. 1
-!- FUNCTION:
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Ueno N., Baird A., Esch F., Ling N., Guillemin R.;
"Isolation of an amino terminal extended form of basic fibroblast growth factor.";
                                              Ueno N., Baird A., Esch F., Shimasaki S., Ling N., Guillemin R., "Purification and partial characterization of a mitogenic factor bovine liver: structural homology with basic fibroblast growth
                                                                                                                                                                            MEDLINE=86095426; PubMed=4081126;
Baird A., Esch F., Boehlen P., Ling N.,
"Isolation and partial characterization
factor from the bovine kidney: homology
                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIINE=86016731; PubMed=3863109;
Bech F., Balrd A., Ling N., Ueno N., Hill F., Denoroy L.,
Gospodarowicz D., Boehlen P., Guillemin R.;
"Primary structure of bovine pituitary basic fibroblast gr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-87217066; PubMed=3472745;
Abraham J.A., Whang J.L., Tumolo A., Mergia A., Fiddes J.C.,
"Human basic fibroblast growth factor: nucleotide sequence,
organization, and expression in mammalian cells.";
Cold Spring Harb. Symp. Quant. Biol. 51:657-668(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Nucleotide sequence of a bovine clone encoding protein, basic fibroblast growth factor."; Science 233:545-548(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=86261806; PubMed=2425435;
Abraham J.A., Mergia A., Whang J.L., Tumolo
Hjerrild K.A., Gospodarowicz D., Fiddes J.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mammalia; Eutheria; Cel
Bovidae; Bovinae; Bos.
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Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28-FEB-2003 (Rel. 41, Last annotation update)
Heparin-binding growth factor 2 precursor (HBGF-2) (Basic fibroblast growth factor) (BFGF) (Prostatropin) [Contains: Kidney-derived growth
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23-OCT-1986
                                                                                                                       SEQUENCE OF 21-40
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                                                                                         MEDLINE=87119165; PubMed=3809608;
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                                                                                                          ISSUE=Kidney;
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       16:135-145(1986).
: THE HEPARIN-BINDING
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MEDLINE=87053817; PubMed=3780670;
Abraham J.A., Whang J.L., Tumolo A.,
Abraham J.C.;
Fiddes J.C.;
                                            MEDLINE=87156686; PubMed=2435284;
Story M.T., Esch F., Shimasaki S., Sasse J.,
"Amino-terminal sequence of a large form of
factor isolated from human benign prostatic
                                                                                                                                                               Gimenez-Gallego G., Conn G., Hatcher V.B., Thomas K.A.; "Human brain-derived acidic and basic fibroblast growth facto minon terminal sequences and specific mitogenic activities.";
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MEDLINE=86186784; PubMed=3964259;
Gimenez-Gailego G., Conn G., Hatc
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Gautschi P., Frater-Schroeder M., Boehlen
"Partial molecular characterization of end
human brain: acidic and basic fibroblast g
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gospodarowicz D., Fiddes J.C.; "Human basic fibroblast growth factor: genomic organization."; EMBO J. 5:2523-2528(1986).
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Brewer M.T., Thompson
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M., Prats A.C., Klagsbrun M., Lelias
n P., Tauber J.P., Amalric F., Smith
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ANGSTROMS)
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zation of endothelial cell mitogens
fibroblast growth factors.";
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                            S., Sasse J., Jacobs S.C., Lawson large form of basic fibroblast growign prostatic hyperplastic tissue." 142:702-709(1987).
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EMBL; M27968; AAA5233.1; ALT_INIT.
EMBL; M27968; AAA5233.1; ALT_INIT.
PIR; A32398; A32398.
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- I- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGE
- IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TY
VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION
CONCENTRATION OF THESE 2 GROWTH FACTORS.
- I- SUBUNIT: MONOMEY.
- I- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY
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"Three-dimensional structure of human basic fibro
a structural homolog of interleukin 1 beta.";
Proc. Natl. Acad. Sci. U.S.A. 88:3446-3451(1991).
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"Crystal structure of basic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=92121151; PubMed=1769963;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Three-dimensional structures
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Three-dimensional structure of human
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Komiya H.,
., Rees D.C.
                                                                                                                                                                                                                                                                                                                 requires a license agreement (S
an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cousens L.S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PubMed=1707542;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fujishima A.,
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growth factor
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c fibroblast
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Ovis aries (Sheep).

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01-FEB-1996 (Rel. 33, Last sequence update) 28-FEB-2003 (Rel. 41, Last annotation update) Heparin-binding growth factor 2 precursor (HB growth factor) (BFGF) (Prostatropin). FGF2 OR FGF-2.
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01-FEB-1991
                                                                                                                                                                                                                                                                                                                                               Growth factor; Mitogen;
                                                                                                                                                                                                                                                                                                                                                             PRINTS; PR00262; IL1HBGF.
ProDom; PD000831; IL1 HBGF;
SMART; SM00442; FGF; I.
                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR002348; IL1_HBGF.
Pfam; PF00167; FGF; 1.
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MIM; 134920
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                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS00247; HBGF_FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                               GO:0005737; C:cytoplasm; TAS.
GO:0005615; C:extracellular space; TAS.
GO:0000187; P:activation of MAPK; TAS.
GO:0000187; P:chemotaxis; TAS.
GO:0007397; P:histogenesis and organogenesis; TAS.
GO:0007399; P:neurogenesis; TAS.
GO:0007399; P:neurogenesis; TAS.
GO:0007265; P:RAS protein signal transduction; TAS.
GO:0007265; P:RAS protein signal transduction; TAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1FQ9; 27-SEP-00.
1II4; 20-JUN-01.
1IIL; 20-JUN-01.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1BFG;
2BFH;
1BLA;
1BLD;
1BAS;
1CVS;
1EV2;
                                                    SHEEP
                                                                                        \frac{3}{3}
                                                                                                                     45;
                                                                                                                   h 100.0%; (
Similarity 100.0%; (
45; Conservative 0;
                                                                                       28-JAN-00.
31-MAY-00.
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30-APR-94.
08-NOV-96.
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                                   (Rel. 17, Created)
                                                                                                                                                   STANDARD;
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48
90
31
119
34
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CELL ATTACHMENT SITE (POTENTIAL)
CELL ATTACHMENT SITE (POTENTIAL)
HEPARIN (POTENTIAL).
                                                                                                                   Score 239; DB 1;
Pred. No. 3.8e-25;
Mismatches 0;
                                                   PRT;
              precursor (HBGF-2) (Basic fibroblast
                                                                                                                                                                                                                                                                                            (POTENTIAL).
                                                   155
                                                   B
                                                                                                                                  Length 155;
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RESULT 5
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                                                       01-APR-1990 (Rel. 14, Created)
01-APR-1990 (Rel. 14, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation updat
Heparin-binding growth factor 2 precursor (
growth factor) (BFGF) (prostatropin).
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Simpson R.J., Moritz R.L., Lloyd C.J.,
Rubira M.R., Burgess A.W.;
"Primary structure of ovine pituitary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
Sutton R., Ward W.G.,
Submitted (SEP-1994) 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoldea
Bovidae; Caprinae; Ovis.
Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                     FGF2_MOUSE
P15655;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS; PR00262; IL1HBGF. ProDom; PD000831; IL1_HBG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; L36136; AAA31519.1; -. HSSP; P09038; 1BFF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the European Bioinformatics Institute. There are no rest
use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by an
entities requires a license agreement (See http://www.isb-
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                                            FGF2 OR FGF-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                              PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     - I - SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 9-155.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nterPro; IPR002348; IL1_HBGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S Lett. 224:128-132(1987).

FUNCTION: THE HEARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT WITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
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MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES
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SM00442; FGF; 1.
                                                                                                                                                                                                                                                                                          l Similarity
45; Conserv
                                                                                                                                                                                                                                                 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                         PS00247; HBGF_FGF; 1. actor; Mitogen; Anglogenesis; Heparin-binding.
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nilarity 100.0%;
Conservative 0;
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                                                                                                                                                     STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                HEPARIN-BINDING GROWTH FACTOR 2.
CELL ATTACHMENT SITE (POTENTIAL)
CELL ATTACHMENT SITE (POTENTIAL)
HEPARIN (POTENTIAL)
HEPARIN (POTENTIAL).
                                                                                                                                                                                                                                                                                          Score 239; DB 1;
Pred. No. 3.8e-25;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                     B5F2364BA610606D
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                                                                                         update)
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                                                                                                                                                    A
                                                                           (HBGF-2)
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                                                                                                                                                                                                                                                                                                                                                     CRC64;
                                                                                                                                                                                                                                                                                                                       Length 155;
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                                                                             fibroblast
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MBL outstation -
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RESULT
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DD H6
DD H6
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                                                              P13109;
01-JAN-1990
01-JAN-1990
28-FEB-2003
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                  Growth PROPEP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
MEDIJINE=90201563; PubMed=2318343;
Hebert J.M., Basilico C., Goldfarb M., Haub O., Martin G.R.;
"Isolation of cDNAs encoding four mouse FGF family members and characterization of their expression patterns during embryogenesis.";
                                  01-JAN-1990 (Rel. 13, Created)
01-JAN-1990 (Rel. 13, Last sequence update)
28-FBB-2003 (Rel. 41, Last annotation update)
Heparin-binding growth factor 2 precursor (HB
growth factor) (BFGF) (Prostatropin).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; M30644; AAA37621.1; ---
EMBL; AF065903; AAC17503.1; --
EMBL; AF065904; AAC17504.1; --
EMBL; AF065905; AAC17505.1; ---
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                                                                                                                      FGF2
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SMART; SM00442; FGF; 1.
PROSITE; PS00247; HBGF FGF; 1.
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STRAIN=C57BL/6J, A/J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=10090;
 Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>ც</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PIR; C37360; C37360.
            Rattus norvegicus (Rat)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ma R.Z.,
                                                                                                                                                                                                                                                                                                                                                                                                                                      MGI:95516; Fgf2.
GO:0005615; C:extracellular space;
GO:0045597; P:positive regulation cerpro; IPR002348; IL1_HBGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBUNIT: Monomer.
MISCELLANEOUS: TH
                          OR FGF-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Biol. 138:454-463 (1990)
                                                                                                                                                                                                                                                                                                                                                                                                                                PF00167; FGF; 1
                                                                                                                                                                                       32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P09038; 1BFF.
                                                                                                                                                                                                                                                                                                                                                             factor; Mitogen; Angiogenesis; Heparin-binding
                                                                                                                                                                                                                                          44;
                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                    YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Teuscher C.;
                                                                                                                                                                                     YCKNGGFFLRIHPDGRVDGVREKSDPHVKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                             115
154 AA;
                                                                                                                                                                                                                                          Conservative
                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                        154
30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN
                                                                                                                                                                                                                                                                                             118 I
17153 MW;
Chordata;
                                                                                                                                                                                                                                                     99.6%;
97.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and NOD/LtJ; TISSUE=Spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         regulation of cell differentiation; IDA
                                                                                                                                                                                                                                          1.
                                                                                                                                                                                                                                       Score 238; DB Pred. No. 5.2e 1; Mismatches
                                                                                                                                                                                                                                                                                                        HEPARIN-BINDING GROWTH FACTOR HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL)
Craniata; Vertebrata; Euteleostomi;
                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                             3PARIN (POTENTIAL).
689F677416274388 CRC64;
                                                                                                                   154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (See http://www.isb-sib.ch/announce/
                                                                                                                   B
                                                                                                                                                                                                                                                      DB 1;
.2e-25;
                                                   (HBGF-2)
                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                 Length 154;
                                                                                                                                                                                                                                          Indels
                                                   (Basic
                                                                                                                                                                                                              45
                                                   fibroblast
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IN
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Query Match
Best Local Similarity
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                                                                                                                                          BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=Sprague-Dawley; TISSUE-Brain;

MEDLINE=9229546; Pubmed=1378302;

El-Husseini A.E.-D., Paterson J.A., Myal Y., Shiu R.P.C.;

El-Husseini A.E.-D., Paterson J.A., Myal Y., Shiu R.P.C.;

"PCR detection of the rat brain basic fibroblast growth factor (

"RNA containing a unique 3' untranslated region.";

Biochim. Biophys. Acta 1131:314-316(1992).

-i- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
                                                                                                                                                                                                               CHAIN
                                                                                                                                                                                                                                                         Growth
PROPEP
                                                                                                                                                                                                                                                                                PRINTS; PR00262; ILLHBGF.

ProDom; PD000831; ILL HBGF; 1.

SMART; SM00442; FGF; 1.

PROSITE; PS00247; HBGF_FGF; 1.

PROSITE; PS00247; Micogen; Angiog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; M22427; AAA41210.1; -.
EMBL; X07285; CAA30265.1; -.
EMBL; U78079; AAC53225.1; -.
EMBL; X61697; CAA43863.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <del>:</del>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Shimasaki S., Emoto N
Cooksey K., Baird A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10116;
                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               entities requires a license agreement (See http://www.isb-sib.ch/announce/
or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rasummarini K.B.S., Jin Y., Cattini P.A.; "Cloning of the rat fibroblast growth factor-2 promoter its response to mitogenic stimuli in glioma C6 cells."; J. Neurochem. 68:898-908(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-88262516; PubMed-3387229;
Kurokawa T., Seno M., Igarashi K.;
"Nucleotide sequence of rat basic fibroblast growth factor cDNA.";
Nucleic Acids Res. 16:5201-5201(1988).
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fibroblast growth factor and tissue distribution
Diochem. Biophys. Res. Commun. 157:256-263(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PIR; A31674; A31674.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 1-28 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rissuE=Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                fam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ISSP; P09038; 1BFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MISCELLANEOUS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBUNIT: Monomer.
TISSUE SPECIFICITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pro; IPR002348; IL1_HBGF.
PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           non-profit institutions as long
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154
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                                                                                                           A.
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17139
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97.8%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FOUND IN ALL THE TISSUES PROTEIN BINDS HEPARIN MOF
                                                                                                                                                                                                                                                                                            Angiogenesis; Heparin-binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                           ME:
                                                                                                                                          HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
Score 238;
Pred. No.
                                                                                                                                                                                                                   HEPARIN-BINDING GROWTH FACTOR
                                                                                                           1A0F14FF423D8403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mercado
8; DB 1;
. 5.2e-25;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MORE
                                                                                                           CRC64;
                                  Length 154;
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THE REAL BREEF BRE

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RESULT 8
FGF2_MONDO
ID FGF2_MONDO
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FGF2_CHICK
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Best Local S
Matches 44
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BINDING
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FGF2 OR FGF-2.
FGF2 OR FGF-2.
Gallus gallus (Chicken).
Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                      PROSITE; PS00247; HBGF_FGF; 1.

Growth factor; Mitogen; Angiogenesis; Heparin-binding.

PROPEP 1 12 BY SIMILARITY.

CHAIN 13 158 HEPARIN-BINDING GROWTH FACTOR
BINDING 30 34 HEPARIN (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                   entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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01-FEB-1996 (Rel. 33,
28-FEB-2003 (Rel. 41,
                                                                                                                                                                                                                                                                        PRINTS; PR00262; IL1HBGF.
ProDom; PD000831; IL1 HBGF; 1.
SMART; SM00442; FGF; 1.
                                                                                                                                                                                                                                                                                                                                           EMBL; M95707; AAA48617.1; -. HSSP; P09038; 1BFF.
                                                                                                                                                                                                                                                                                                                                                                                                         the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for commodified and this statement is not removed.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antisense mRNAs during chicken embryogenesis.";
Dev. Biol. 157:110-118 (1993).
-i- FUNCTION: THE HEPARIN.-BINDING GROWTH FACTORS ARE ANGIOGENIC
-IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES
VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND
CONCENTRATION OF THESE 2 GROWTH FACTORS.
-i- SUBUNIT: Monomer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=93246053; PubMed=7683281;
Borja A.Z., Zeller R., Meijers C.;
"Expression of alternatively splic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
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01-FEB-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FGF2
                                                                                                                                                                                                                                                                                                                  Pfam; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                            InterPro; IPR002348; IL1_HBGF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MISCELLANEOUS: THIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                  SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TaxID=9031;
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                                                                                                                         Similarity 97.8
44; Conservative
                                                                   YCKNGGFFLRINPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
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                                                                                                                                                                               Α
    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
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158
34
122
                                                                                                                                   97.1%;
97.8%;
                                                                                                                                                                                17374 MW;
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                                                                                                                        Score 232; DB Pred. No. 3.5e 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1,
                                                                                                                                                                                           HEPARIN (POTENTIAL)
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     PRT;
                                                                                                                                                                               7B69B684C17F1816
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    156
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                                                                                                                  DB 1;
3.5e-24;
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                                                                                                                                                 Length 158;
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Best Local
                                                                                                                FGF2_XENLA
P12226;
01-OCT-1989
                                       01-OCT-1989 (Rel. 12, Created)
01-JAN-1990 (Rel. 13, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Heparin-binding growth factor 2 precursor ()
growth factor) (BFGF).
                                                                                                                                                                                                                                                                                                                                        BINDING
BINDING
SEQUENCE
                                                                                                                                                               XENLA.
                                                                                                                                                                                                                                                                                                                                                                                                  Growth
PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kusewitt D.F., Sabourin C.L.K., Sherburn T.E., Ley R.D.;
"Characterization of cDNA encoding basic fibroblast growth facto
the marsupial Monodelphis domestica.";
DNA Cell Biol. 13:549-554 (1994).
-i- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC
-IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES
VITRO. THERE ARE DIFERRENCES IN THE TISSUE DISTRIBUTION AND
CONCENTRATION OF THESE 2 GROWTH FACTORS.
Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                         ProDom; PD000831; IL1 HBGF; 1.
SMART; SM00442; FGF; 1.
PROSITE; PS00247; HBGF FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Heparin-binding growth factor 2 precursor (HBGF-2)
growth factor) (BFGF) (Prostatropin).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the European Bioinformatics Institute. There are no resuse by non-profit institutions as long as its content modified and this statement is not removed. Usage by a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Cl
Mammalia; Metatheria;
                                                                                                                                                                                                                                                                                                                                                                                       CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRINTS; PR00262; IL1HBGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; Z15154; CAA78854.1; ALT_INIT.
HSSP; P09038; 1BFF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced throu
between the Swiss Institute of Bioinformatics and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=94296558; PubMed=8024698;
Kusewitt D.F., Sabourin C.L.K., S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=13616;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Monodelphis domestica (Short-tailed grey opossum).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Metatheria; Didelphimorphia; Didelphidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P48798;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR002348; IL1_HBGF.
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                                                                                                                                                                                                                       34
                                                                                                                                                                                                                                                                                                                                                                                                  factor; Mitogen; Angiogenesis; Heparin-binding
1 9 BY SIMILARITY.
                                                                                                                                                                                                                                                                                 43;
                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                          YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                       YCKNGGFFLRIHPDGRVDGIREKSDPNIKLQLQAEERGVVSIKGV
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28
117
156 AA;
                                                                                                                                                                                                                                                                                 Conservative
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                                                                                                                                                STANDARD;
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                                                                                                                                                                                                                                                                                            96.7%;
95.6%;
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                                                                                                                                                                                                                                                                                2;
                                                                                                                                                                                                                                                                                             Score 231; DB 1;
Pred. No. 4.7e-24;
                                                                                                                                                                                                                                                                                                                                                       HEPARIN
                                                                                                                                                                                                                                                                                                                                                                        HEPARIN (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                      HEPARIN-BINDING GROWTH FACTOR
                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                          PARIN (POTENTIAL)
7E655FCC49BF1209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BINDS HEPARIN
                                                                                                                                                                                                                                                                                 Mismatches
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                                                                                                                                                155
                                                                                      update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       There are no restrictions
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                                                                        (HBGF-2)
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                                                                                                                                                                                                                                                                                                                                           CRC64;
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Monodelphis
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RESULT 10
FGF1_MESAU
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Best Local S
Matches 38
                                                                                                                                                                                                                    01-FEB-1994 (Rel. 28, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Heparin-binding growth factor 1 precursor (HBK growth factor) (AFGF).
FGF1 OR FGF-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BINDING
BINDING
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                      MESAU
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ProDom; PD000831; IL1 HBGF; 1.

SMART; SM00442; FGF; I.

PROSITE; PS00247; HBGF FGF; 1.

Growth factor; Mitogen; Angiogenesis; Heparin-binding.
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use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by a
SEQUENCE FROM N.A.

MEDLINE=90270291; PubMed=1693366;
Hall J.A., Harris M.A., Malark M., Mansson P.E., Zhou H., Harris
"Characterization of the hamster DDT-1 cell aFGF/HGBF-I gene and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kimelman D., Abraham J., Haaparanta "The presence of fibroblast growth f as a natural mesoderm inducer."; Science 242:1053-1056(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entities requires a license agreement (S or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Synergistic induction of
                                                                                                                                      Mesocricetus
                                                                                                                                                      Mammalia; Eutheria;
                                                                                                                                                                           Eukaryota; Metazoa;
                                                                                                                                                                                                    Mesocricetus auratus (Golden hamster)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR002348; IL1_HBGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; M18067; AAA49726.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Synergistic induction of mesoderm by identification of an mRNA coding for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=88052890;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 95-155
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NCBI_TaxID=8355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A40117; A40117.
; P09038; 1BFF.
                                                                                                                                                                                                                                                                                                                                                                               MESAU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   51:869-877 (1987)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        33
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YCKNGGFFLRINSDGRVDGSRDKSDSHIKLQLQAVERGVVSIKGI
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ilarity 84.4%;
Conservative
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31
119
111
17241
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                                                                                                                                                         Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ₩;
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HEPARIN
MISSING
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3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 199; DB 1;
Pred. No. 9.8e-20;
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                                                                                                                                                         Craniata; Vert
Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                               PRT;
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                                                                                                                                                         Vertebrata; Euteleostomi;
thi; Muridae; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Palisi T., Kırbum...
-- in the frog egg: its
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in the early 1
                                                                                                                                                                                                                                                                    (HBGF-1) (Acidic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GROWTH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 155;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CRC64;
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    S.E.;
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Matches
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P10935;
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28-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BINDING
MEDLINE=97128312; PubMed=8972905; Madiai F., Hackshaw K.V., Chiu I.M.; "Cloning and characterization of the Gene 179:231-236(1996).
                                                                                                                                                                                Hebert J.M., Basilico C., Goldfarb M., Haub O., Martin G.R. "Isolation of cDNAs encoding four mouse FCF family members characterization of their expression patterns during embryo Dev. Biol. 138:454-463(1990).
                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-89240051; PubMed-2470029;
Goodrich S., Yan G.C., Bahrenburg K., Mansson P.
"The nucleotide sequence of rat heparin binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Heparin-binding growth factor 1 precursor (HBGF-1) (Acidic growth factor) (AFGF).
FGF1 OR FGF-1 OR FGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRINTS; PR00262; IL1HBGF.
ProDom; PD000831; IL1_HBGF; 1.
SMART; SM00442; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  J. Cell. Biochem. 43:17-26(1990).

-I- FUNCTION: THE HEBARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOCENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.

-I- SUBUNIT: MODOMER.

-I- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN, ALTHOUGH LESS STR
                                                                                                                                                                                                                                                                MEDLINE=90201563; PubMed=2318343;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus musculus (Mouse), and Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                            SPECIES=Mouse;
                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                Nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SPECIES=Rat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=10090,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS00247; HBGF_FGF; 1.
Growth factor; Mitogen; Angiogenesis; Heparin-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PIR; A60721; A60721.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -!- SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and its modulation by steroids.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pram;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR002348; IL1_HBGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  THAN DOES BFGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PF00167; FGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P05230; 1RML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQABERGVVSIKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30;
                                                                                                                                                                                                                                                                                                                                                                Acids
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16
24
113
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(Rel. 11, Last sequence update)
(Rel. 41, Last annotation update)
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                                                                                                                                     N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10116;
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28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17403 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  65.3%;
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Pred. No. 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HEPARIN (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HEPARIN-BINDING GRC
HEPARIN (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Craniata; Ver
Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HEPARIN-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       41E5EC760E412CC5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ed. No. 6.3e-14;
Mismatches 11
                                            mouse Fgf-1 gene.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vertebrata; Euteleostomi;
thi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALTHOUGH LESS STRONGLY
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                                                                                                                                                                                                                                                                                                                                                                                                        .E.;
growth factor 1
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                                                                                                                                                                                                     embryogenesis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 44
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.R; S04147;
ASSP; P05230; 1k.
MGD; MGI:95515; FG1.
InterPro; IPR002348; IL.
R Pfam; PF00167; FGF; 1.
DR PRINTS; PR00262; ILIHBGF.
DR PRODOM; PD000831; IL1 HBGF; 1.
PROSITE; PS00247; HBGF FGF; 1.
PROSITE; PS00247; HBGF FGF; 1.
1 15
16 155
16 155
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174419
RRR OCCOORDED DIT ACC
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FGF1_CHICK
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Best Local :
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                                                                                                                                                            P19596;
01-FEB-1991
01-FEB-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; X14232; CAA32448.1; -.
EMBL; M30641; AAA37618.1; -.
EMBL; U36459; AAC52969.1; -.
EMBL; U36457; AAC52969.1; JOINED.
EMBL; U36458; AAC52969.1; JOINED.
EMBL; U36458; AAC52969.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Characterization of the 1B promoter of fibroblast growth factor and its expression in the adult and developing mouse brain.";
J. Biol. Chem. 271:30263-30271(1996).
-i- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC A IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN VIVO. AND ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
                                                                                                                     Heparin-binding growth factor 1 precursor (HBGF-1) (Acidic f
growth factor) (AFGF) (Alpha-endothelial cell growth factor)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or send an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entropean Bioinformatics Institute. There are no restude by non-profit institutions as long as its content
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
SPECIES=Mouse; STRAIN=BALB/c;
MEDLINE=97094746; PubMed=8939980;
MEDLINE=91347925; PubMed=1715259;
            SEQUENCE FROM N.A.
                                                                              Eukaryota; Metazoa;
                                                                                         Gallus gallus (Chicken).
                                                                                                                                               28-FEB-2003
                                                                                                                                                                                                     FGF1
                                     NCBI_TaxID=9031;
                                                                Archosauria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY: BELONGS TO
                                                                                                       OR FGF-1.
                                                                                                                                                                                                     CHICK
                                                                                                                                                                                                                                                                     30
                                                                                                                                                                                                                                                                                            30;
                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and this statement is not removed. U
                                                                                                                                                                                                                                                                  YCSNGGHFLRILPDGTVDGTRDRSDQHIQLQLSAESAGEVXIKG
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                                                                                                                                             (Rel. 17, Created)
(Rel. 33, Last sequence update)
(Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                        Conservative
                                                                Aves;
                                                                                                                                                                                                     STANDARD;
                                                                Neognathae;
                                                                             Chordata;
                                                                                                                                                                                                                                                                                                                                   65.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Angiogenesis; Heparin-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                     HEPARIN-BINDING GROWTH
HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                   Score 156; DB 1;
Pred. No. 6.3e-14;
                                                               Craniata; Ver
                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                          8880E4FF0FBA4161 CRC64;
                                                                                                                                                                                                                                                                                                                       Mismatches
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                                                                Vertebrata; Eute
mes; Phasianidae;
                                                                                                                                                                                                     ₿
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                                                                                                                    growth
                                                                                                                                                                                                                                                                                                                                                Length 155;
                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                 FACTOR
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                                                                             Euteleostomi;
                                                                                                                                                                                                                                                                     73
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a collaboration MBL outstation -
                                                                                                                                 fibroblast
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FGF1 FGF1
ID FGF1
ID FGF1
AC P2000
AC 01-FE
DT 01-FE
DT 28-FE
DT 28-FE
DT 28-FE
DT 28-FE
CGN FGF6
CGN Sus E
CC Eukar
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Best Local S
Matches 29
                                                                                                                                                                                                                                                                                                                                                                   BINDING
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Martin G.
                                                                                      01-FEB-1991 (Rel.
01-FEB-1996 (Rel.
28-FEB-2003 (Rel.
                                                                                                                                      FGF1_PI
P20002;
                                                                                                                                                                                                                                                                                                                                                                                                                       ProDom; PD000831; IL1 HBGF; 1.
SMART; SM00442; FGF; 1.
PROSITE; PS00247; HBGF_FGF; 1.
Growth factor; Mitogen; Angiogenesis; Heparin-binding.
PROPEP 1 1.5
            FGF1 OR FGF-1.
Sus scrofa (Pig).
                                                         Heparin-binding growth factor) (
                                                                                                                                                                                                                                                                                                                                                                                              CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Differentiating and mature neurons express the acidic fibroblast growth factor gene during chick neural development.";
Development 111:1143-1154(1991).
                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; S63263; AAB19629.1; -.
EMBL; U31863; AAA80310.1; -.
EMBL; S63261; AAD13942.1; -.
PIR; A60130; A60130.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and for commer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Risau W., Gautschi-Sova P., Boehlen P.; "Endothelial cell growth factors in embryonic and adult chick brain are related to human acidic fibroblast growth factor.";
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                               CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR002348; IL1_HBGF
Pfam; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     емво ј.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 22-48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Schnurch H.,
                                          (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSSP; P05230;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       O J. 7:959-962(1988).

FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.

SUBUNIT: Monomer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MISCELLANEOUS:
                                                                                                                                                      PIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              THAN DOES BFGF
                                                                                                                                                                                                                                30
                                                                                                                                                                                                                                                                                          29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PR00262; IL1HBGF.
PD000831; IL1_HBG
                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3 FROM N.A.
3.R., Han J.K.;
ed (JUL-1995) to
                                                                                                                                                                                                                                                 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIK 43
                                                                                                                                                                                                                              YCSNGGHFLRILPDGKVDGTRDRSDQHIQLQLSAEDVGEVYIK 72
                                                                                                                                                                                                                                                                                        64.0%;
ilarity 67.4%;
Conservative
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155
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    al. 17, Created)
    bl. 33, Last sequence update)
    bl. 41, Last annotation update)
    g growth factor 1 precursor (HBGF-1) (Acidic fibroblast (AFGF) (Alpha-endothelial cell growth factor)

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                                                                                                                                                      STANDARD;
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                                                                                                                                                                                                                                                                                          Score 153; DE Pred. No. 1.66 5; Mismatches
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ENDOTHELIAL CELL GROWTH FACTOR ALPHA.
HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
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FGF1 HUMAN STANDARD; PRT; 155 AA.
P05230; P07502;
13-AUG-1987 (Rel. 05, Created)
13-AUG-1987 (Rel. 05, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Heparin-binding growth factor 1 precursor (HBGF-1) (
growth factor) (AFGF) (Beta-endothelial cell growth
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Eur. J. Biochem. 181:67-73(1989).

-i- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.

-i- SUBUNIT: MONOMER.

-i- SUBUNIT: MONOMER.

-i- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN, ALTHOUGH LESS STR THAN DOES BFGF.
                                                                                                                                                                            HUMAN
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ProDom; PD000831; IL1 HBGF; 1.
SMART; SM00442; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/anor send an email to license@isb-sib.ch).
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Schmidt M., Sharma H.S., Schott R.J., Schaper W
"Amplification and sequencing of mRNA encoding
growth factor (AFGF) from porcine heart.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=89231704;
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                                                                                                                                                                                                                                                                                                YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIK 43
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3; Mismatche
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HEPARIN (POTENTIAL).
C -> S (IN REF. 2).
R -> Y (IN REF. 2).
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       REFERENCE DE LA PRESENTATION DE 
                                                                 RX MEDLINE-22388257; PubMed=12477932;

RX Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RS Strausberg R.L., Feingold E.A., Grouse L.H., Shenmen C.M., Schuler G.D.,

RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

RA Hischul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hong L.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Biatchenko L., Marusina K., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Biatchenko L., Marusina K., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carrinci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carrinci P., Prange C.,

RA Bas S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Warny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Willialon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Wilting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA William M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
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     Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C. Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailı
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mergia A., Tischer E., Graves D., Tumolo A., Miller J., Gospodarowicz D., Abraham J.A., Shipley G.D., Piddes J.C.; "Structural analysis of the gene for human acidic fibroblast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A. MEDLINE=90073637; PubMed=2590193;
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MRDLINE=89343957; PubMed=2474753;
MRDLINE=89343957; PubMed=2474753;
Wang W.P., Lehtoma K., Varban M.L., Krishnan I., Chiu I.M.;
"Cloning of the gene coding for human class 1 heparin-binding growth factor and its expression in fetal tissues.";
Mol. Cell. Biol. 9:2387-2395(1989).
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Jaye M., Howk R., Burgess W., Ricca G.A., Chiu I.-M.,
O'Brien S.J., Modi W.S., Maciag T., Drohan W.N.;
"Human endothelial cell growth factor: cloning, nucleo
and chromosome localization.";
Science 233:541-545(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Liver;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Brain stem;
MEDLINE=90265618;
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=92202857;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    acidic fibroblast growth factor icing acts like an antagonist."; Exp. Med. 175:1073-1080(1992).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PubMed=1372643;
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D.E.,

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mRNA coding

nucleotide

sequence,

Ravera

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SEQUENCE OF 16-155.

MEDLINE=8704887; PubMed=3778488;

Gautschi-Sova P., Mueller T., Boehlen P.;

"Amino acid sequence of human acidic fibroblast growth factor.";

"Aniohem. Biophys. Res. Commun. 140:874-880(1986).
             STRUCTURE BY NMR OF 24-155.
MEDLINE=97107535; PubMed=8950275;
Pineda-Lucena A., Jimenez M.A., La
Rico M., Gimenez-Gallego G.;
                                                                                                                                                                                                               Blaber M., Disalvo J., Thomas K.A.; "X-ray crystal structure of human a
                                                                                                                                                                                                                                                                                                                                                                                                  Gimenez-Gallego G., Conn G., Hatcher V.B., Thomas K.A.; "Human brain-derived acidic and basic fibroblast growth facto amino terminal sequences and specific mitogenic activities.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       [11]
SEQUENCE OF 16-155.
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Hatc
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"The expression of acidic fibroblast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Schnerch
                                                                                                                               Gimenez-Gallego G.;
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                                                                                                                                                                                                                                                                                                                                           MEDLINE=86275260; PubMed=3732516;
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                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=86186784; PubMed=3964259;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Harper J.W., Strydom D.J., Lobb R.R.;
"Human class 1 heparin-binding growth factor: structure
to bovine acidic brain fibroblast growth factor.";
Biochemistry 25:4097-4103(1986).
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MEDLINE=86296647; PubMed=2427112;
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                                                                                                   growth factor
                                                                                                                                           Pineda-Lucena A.,
                                                                                                                                                        MEDLINE=94358885;
                                                                                                                                                                                                   Biochemistry 35:2086-2094(1996).
                                                                                                                                                                                                                                           MEDLINE=96194129; PubMed=8652550
                                                                                                                                                                                                                                                          X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS).
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Partial molecular characterization of endothelial cell
numan brain: acidic and basic fibroblast growth factors.
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1. Dionne C.A., Jaye M.;
2 for human acidic fibroblast growth factor encodes two afor human acidic fibroblast growth factor encodes two exons alternatively spliced to the first coding exon.";
2 pag. Commun. 171:7-13(1990).
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                                                                                    activated by inositol 242:81-98(1994).
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initial analysis of more than 15,000 full-length
cDNA sequences.";
d. Sci. U.S.A. 99:16899-16903(2002).
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; PubMed=7521397;
, Jimenez M.A., Ni
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                            Lozano R.M.,
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last growth factor
nes in human cardia
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                                                                                                   hexasulfate.";
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brain-derived acidic
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EMBL; X51943; CAA36206.1; -.
EMBL; M30492; AAA52446.1; JOINED.
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EMBL; M30491; AAA52446.1; JOINED.
EMBL; M60516; AAA51672.1; -.
EMBL; M60516; AAA51673.1; -.
EMBL; M23087; AAA52638.1; JOINED.
EMBL; M23086; AAA52638.1; JOINED.
EMBL; BC032697; AAA52677.1; -.
EMBL; BC032697; AAA52677.1; -.
                                                                                             23-OCT-1986 (Rel. 02, Created)
23-OCT-1986 (Rel. 10, Last sequence update)
01-MAR-1989 (Rel. 10, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
48-FEB-2003 (Rel. 41, Fast annotation update)
49-FEB-2003 (Rel. 10, Last sequence update)
49-FEB-2003 (Rel. 10, Las
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J. Mol. Biol. 281:899-915(1998).
I. FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS A IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISCONCENTRATION OF THESE 2 GROWTH FACTORS.
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Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                solution: effects of binding to J. Mol. Biol. 264:162-178(1996)
                                                           Bos taurus
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MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN,
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2AFG; 19
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SEQUENCE OF 16-45.
MEDLINE=89231704; PubMed=2714282;
Quinkler W., Maasberg M., Bernotat-Danielowski S., Luethe N., Schaper W.;
"Tollain H.S., Schaper W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE OF 16-56 FROM N.A.

MEDLINE=86261806; PubMed=2425435;

Abraham J.A., Mergia A., Whang J.L., Tumolo A., Friedman J.,

Hjerrild K.A., Gospodarowicz D., Fiddes J.C.;

"Nucleotide sequence of a bovine clone encoding the angiogenic protein, basic fibroblast growth factor.";

Science 233:545-548(1986).
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MEDLINE=86055750; PubMed=4065099;
Boehlen P., Esch F., Baird A., Gospodarowicz D.;
"Acidic fibroblast growth factor (FGF) from bovi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Complete primary structure of prostatropin, a prostate epithelial cell growth factor.";
Piochemistry 25:4988-4993(1986).
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MEDLLNE=91095983; PubMed=1702556;
Zhu X., Komiya H., Chirino A., Faham S
Hsu B.T., Rees D.C.;
                                                                                                                                                   SEQUENCE OF 1-18 FROM N.A. Philippe J.M., Renaud F., De Submitted (JUL-1992) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               amino-terminal
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Science 230:1385-1388(1985)
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"Structural evidence that endothelial cell growth factor beta
precursor of both endothelial cell growth factor alpha and aci
fibroblast growth factor.";
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MEDLINE=87016918; PubMed=3532107;
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"Nucleotide sequence of bovine acidic f
Nucleic Acids Res. 16:10913-10913(1988)
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MEDLINE=87026586; PubMed=3768327;
                                                                                                                                                                                                                                                                                                  "Isolation of heparin-binding growth
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Three-dimensional structures of acidic and basic fibroblast growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    o-terminal sequence and comparison with basic FGF.";
J. 4:1951-1956(1985).
                                                                                                                                                                                                                                                                                     hearts.";
                                                                                                                                                                                                                                                             Biochem.
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., Rodkey J., Bennett C.,
                                                                                                                                                 Desset S., Laurent M.;
he EMBL/GenBank/DDBJ databases
                                                  Faham S.,
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EMBL; M13439; AAA30516.1; --
EMBL; X13221; CAA31610.1; --
EMBL; X14032; CAA32192.1; --
EMBL; M35608; AAA30517.1; --
EMBL; M56046; CAA47063.1; --
EMBL; M97660; AAA30564.1; --
EMBL; M97661; AAA30564.1; --
EMBL; M97661; GKBOA.
PDB; 1ARR; 31-OCT-93.
PDB; 1APC; 31-OCT-93.
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Science 251:90-93(1991).
Science 251:90-93(1991).
IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES
VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND
CONCENTRATION OF THESE 2 GROWTH FACTORS.
-!- SUBUNIT: MOLOMET.
-!- SUBUNIT: MOLOMET.
                                                                                                                                                                                                 STRAND
                                                                                                                                                                                                                                                                         PROSITE; PS00247; HBGF | Growth factor; Mitogen;
                                                                                                                                                                                                                                                                                        PRINTS; PR00262; IL1HBGF.
ProDom; PD000831; IL1_HBGF; 1.
SMART; SM00442; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                          entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                        the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a
                                                                                                                                                                                                                                                                                                              Pfam, PF00167;
                                                                                                                                                                                                                                                                                                                     interPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIMILARITY: BELONGS
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FGF;
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HEPARIN-BINDING GROWTH FACTOR A:
ENDOTHELIAL CELL GROWTH FACTOR A
ACETYLATION.
HEPARIN (POTENTIAL).
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Title:
Perfect score:
Sequence:
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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     January 30, 2004, 11:33:38; Search time 46.6154 Seconds (without alignments) 249.110 Million cell updates/sec
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Gapop 10.0 , Gapext 0.5
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239
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sp_organelle:*
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Copyright (c) 1993 - 2004 Compugen Ltd.
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sp_mammal:*
sp_mhc:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	16	15	14	13	12	11	10	9	8	7	σ	ហ	4	ω	2	ᆫ	Result No.
	118	140	148	156	156	179	179	184	188	203	203	203	212	238	238	239	Score
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	59	106	62	114	114	155	111	108	87	155	125	101	170	153	130	196	Query Match Length DB
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32.4	33.1	•	•	•	•	34.1	•	•	•	•	•	٠	34.7		34.7	35.1		37.7			٠	•	•	ω		45.6	45.6	45.6
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ALIGNMENTS

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PROSITE; PS00247; HBGF_FGF; I.	SMART; SM00442; FGF; 1.	ProDom; PD000831; IL1_HBGF; 1.	PRINTS; PR00262; IL1HBGF.	Pfam; PF00167; FGF; 1.	InterPro; IPR002348; IL1_HBGF.	1BFF.	EMBL; S47380; AAD13853.1;	EMBL; J04513; AAA52532.1;	Biochem. Biophys. Res. Commun. 187:1227-1231(1992).	granulosa and cumulus cells from in vitro fertilisation patients.";	•	"Reverse transcription with nested polymerase chain reaction shows		Watson R., Anthony F., Pickett M., Lambden P., Masson G.M.,	93038590; 1	SEQUENCE OF 81-168 FROM N.A.	[2]	Proc. Natl. Acad. Sci. U.S.A. 86:1836-1840(1989).	codons.";	fibroblast growth factor	un P., Chalon P., Tauber J.P., Amalric F., Smith	M., Prats A.C., Klagsbrun M., Lelias	œ	SEQUENCE FROM N.A.	[1]	NCBI_TaxID=9606;	Primates; Catarrhini; Hominidae;		Homo sapiens (Human).	F2.	c fibroblast grow	(TrEMBLrel. 23, Last annotation	(TrEMBLrel. 03,	1997 (TrEMBLrel.		P78443 PRELIMINARY; PRT; 196 AA.		

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                                                                                                                                                                                                                                                                                                                                                                          Trochta O.A., Jacobs R.M., LaMarre J.;

"The role brgr in canine Hemangiosarcoma.";

Submitted (APR-1998) to the EMBL/GenBank/DDBJ databases.

-!- FUNCTION: WIDE-SPECTRUM MITOGENIC, ANGIOGENIC, AND NEUROTROPHIC FACTOR. IMPLICATED IN A MULTITUDE OF PRYSIOLOGIC AND PATHOLOGIC PROCESSES, INCLUDING LIMB DEVELOPMENT, ANGIOGENESIS, WOUND HEALING, AND TUMOR GROWTH. POTENT MITOGEN AND CHEMOATTRACTANT FOR MESENCHYME-DERLYDE CELLS. IMPLICATED IN THE DIFFERENTIATION, PROLIFERATION, AND MAINTENANCE OF CELLS IN THE CENTRAL NERVOUS SYSTEM AND IN BONE FORMATION. MAJOR ANGIOGENIC FACTOR THAT ALSO ACTIVATES TUMOR NEOVASCULARIZATION (BY SIMILARITY).
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01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-NOV-1998 (TrEMBLrel. 23, Last annotation update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Basic fibroblast growth factor (BFGF) (FGF-2) (Heparin-binding factor 2) (HBGF-2) (Prostatropin) (Prostatic growth factor)
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                                                                                                  SEQUENCE
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ProDom; PD000831; IL1 HBGF;
SMART; SM00442; FGF; 1.
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                                                                                                                                                                                                                                                                                                                            EMBL; AF060562; AAC35912.1; -.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                    InterPro;
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             YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
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Pred. No. 2.4e-24;
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RESULT 3

TISSUE=Brain; CHARACTERIZATION

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Q925A3;
01-DEC-2001
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01-NOV-1996 (TrEMBLrel. 01, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2003 (TrEMBLrel. 23, Last annotation update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Fibroblast growth factor 2 (FGF-2) (Fibroblast growth
                                                                                                                                                                                                                                                                                  Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dirks R.P., Griep A.E.,
"Multiple novel variants of fibroblast growth
expressed in mouse embryos.",
Submitted (FEB-2001) to the EMBL/GenBank/DDBJ
EMBL, AY027551, AAK52308.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-MAR-2003 (TrEMBLrel. 23,
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                                                                      Burgess W.H.,
                                                                                  PARTIAL SEQUENCE,
MEDLINE=91322114;
                                                                                                                                   "An amino-terminally extended and post-translationally modified of a 25kD basic fibroblast growth factor.";
                                                                                                                                                           MEDLINE=89273588; PubMed=2730645; Sommer A., Moscatelli D., Rifkin D.B.;
                                                                                                                                                                                                                      TISSUE=Prostate;
Ricciardelli C.;
                                                                                                                                                                                                                                                                                                                                                                                               Q60487;
01-NOV-1996
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Pfam; PF00167; FGF; 1.
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[1]
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                                 Cell Regul.
                                               molecular weight
                                                                                                                       Biochem.
                                                                                                                                                                                     SEQUENCE OF N-TERMINUS,
                                                                                                                                                                                                           Submitted (JAN-1996)
                                                                                                                                                                                                                                                SEQUENCE OF 53-170
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; PD000831; IL1 HBGF; 1.
SM00442; FGF; 1.
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                                    2:87-93 (1991).
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Bizik J., Mehlman T.,
                                           zik J., Mehlman T., Quarto N., Rifkin for methylation of arginine residues forms of basic fibroblast growth fact
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17024 MW;
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97.8%;
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                                                                                                                        Commun. 160:1267-1274(1989)
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Pred. No. 2.4e-24;
1; Mismatches 0
                                                                                                                                                                                                                                                                                  Craniata; Vertebrata; Euteleosto
Hystricognathi; Caviidae; Cavia.
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Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
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                                                                                                                                                                                     SEQUENCE,
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                                           ne residues in high growth factor.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tebrata; Euteleostomi;
Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         databases
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(Prostatropin)
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                                                                        D.B.;
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RESULT 5
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Best Local
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                                                       P79706;
01-MAY-1997
01-MAY-1997
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INIT_N
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PRINTS; PR00262; IL1HBGF.
ProDom; PD000831; IL1 HBGF; 1.
SMART; SM00442; FGF; 1.
PROSITE; PS00247; HBGF FGF; 1.
Growth factor; Mitogen; Heparin-binding; Alternative initiation; Methylation; Phosphorylation; Developmental protein.
SEQUENCE FROM N.A
           Eukaryota; Metazoa; (
Amphibia; Batrachia;
NCBI_TaxID=8330;
                                                                             P79706
                                                                                                                                                                                                                                                                                                                                        EMBL; L75974; AAA85394.1; ALT_FRAME.
HSSP; P09038; 1BLA.
                                  Cynops pyrrhogaster
                                          Basic FGF (Fragment)
                                                  01-MAR-2003
                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                   CHAIN
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                                                                                                                        NGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
                                                                                                                NGGFFLRIHPDGRVDGVREKTDPHIKLQLQAEDRGVVSIKGV 92
                                                                                                                                                                      (TrEMBLrel.
                                                                                                                                           Conservative
                                                              (TrEMBLrel.
                                                                             PRELIMINARY;
                   r (Japanese )
; Chordata; (
a; Caudata; (
                                                                                                                                                                       136
18354 MW;
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170
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170
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51
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95.2%;
                                                23,
                                                Last sequence update)
Last annotation updat
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                                                                                                                                           Score 212; DB Pred. No. 9.3e 2; Mismatches
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18 KDA
FOR 18
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METHYLATION (MONO- OR D
METHYLATION (MONO- OR D
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                    common newt).
Craniata; Vertel
Salamandroidea;
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                                                                                                                                                                                                                                                   BASIC FIBROBLAST GROWTH FACTOR.
BASIC FIBROBLAST GROWTH FACTOR.
KDA FORM.
                                                                             101
                          Vertebrata;
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(MONO- OR DI-).
(MONO- OR DI-).
                                                update)
                    Salamandridae;
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                           Euteleostomi;
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                    Cynops.
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RESULT 7
Q90Y92
ID Q90Y92
AC Q90Y92
DT 01-DEC
DT 01-MAR
DE Fibrob
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Best Local
Q90Y92
Q90Y92;
Q90Y92;
O1-DEC-2001 (TremBirel. 19, C)
O1-DEC-2001 (TremBirel. 23, I
O1-MAR-2003 (TremBirel. 23, I
                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mizuno N., Hayashi T., Kondoh H., ("Cynops fibroblast growth factor-2 submitted (OCT-2000) to the EMBL/G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q98TD8;
                                                                                                                                                                                                                                                                                                                                                                                                                Cynops pyrrhogaster (Japanese common newt).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Caudata; Salamandroidea; Salamandridae; Cynops.
NCBI_TaxID=8330;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS00247; HBGF_FGF; 1.
NON_TER 1 1 1
NON_TER 101 101
SEQUENCE 101 AA; 11907 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRINTS; PR00262; IL1HBGF.
ProDom; PD000831; IL1 HBGF;
SMART; SM00442; FGF; I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JUN-2001 (TrEMBLrel. 17,
01-JUN-2001 (TrEMBLrel. 17,
01-MAR-2003 (TrEMBLrel. 23,
Fibroblast growth factor-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PR00262; IL1HBGF.
ProDom; PD000831; IL1 HBGF; 1.
SMART; SM00442; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; D89443; BAA13958.1; -. HSSP; P09038; 4FGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                early Cynops gastrula."; Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Suzuki A.S.,
Kaneda T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; AB049625; BAB40835.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FGF-2.
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Pfam; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Serial expression of the genes
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HSSP; P09038; 1BFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF00167; FGF; 1.
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39; Conserv
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                                                                                                                                                                                                                                                                                                                            Conservative
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Pred. No. 1.1e
3; Mismatches
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Pred. No. 8.4e-20;
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annotation update)
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.1e-19;
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Matches
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Q8WMP4;
01-MAR-2002
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ProDom; PD000831; ILL HBGF; 1.
SMART; SM00442; FGF; 1.
PROSITE; PS00247; HBGF FGF; 1.
SEQUENCE 155 AA; 17278 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR002348; ILL HBGF. Pfam; PF00167; FGF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Susaki K., Nakamura K., Chi "Expression of FGF2 during regeneration.";
                                                                                                                                                                                                                                                                         SEQÜENCE
                                                                                                                                                                                                                                                                                                        PROSITE; PS00247; HBGF FGF;
NON_TER 1 1-
NON_TER 87 87
                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PR00262; IL1HBGF.
ProDom; PD000831; IL1_HBGF; 1.
SMART; SM00442; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Freising, Germany.
EMBL; AJ319906; CAC86028.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Thesis (2002), Department of Physiology, University of munich,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Endometrium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eŭkaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Equus caballus (Horse)
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Pfam; PF00167; FGF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Caudata; Salamandroidea; Salamandridae; Cynops.
NCBI TaxID=8330;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
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inspanier R.;
ibmitted (JUN-2001)
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                                                                                                                             l Similarity
37; Conserv
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LRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 37
                                      LRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
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                                                                                                                                        Conservative
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10128 MW;
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newt retinal development
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Last annotation update)
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RESULT 10
Q9BDX1
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g9N1S7
ID 99N1S
ID 99N1
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AC 99N1
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AC 9N1
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Best Local S
Matches 36
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Q9N1S7;
01-OCT-2000
01-OCT-2000
01-MAR-2003
                                                                                                       Sekhon H.S., Keller J.K., Spindel B.R.;
"Alterations in Collagen and Elastin Gene Expression in F
Pulmonary Veesels in Monkeys Following Prenatal Nicotine
Possible Role of alpha7 Nicotinic Acetylcholine Receptor
Pulmonary Hypertension.";
Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AF251270; AAK37962.1; -.
HSSP; P09038; 2FGF.
InterPro; IPR002348; IL1_HBGF.
Pfam; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence up
01-MAR-2003 (TrEMBLrel. 23, Last annotation
Basic fibroblast growth factor (Fragment).
Macaca mulatta (Rhesus macaque).
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NON_TER
SEQUENCE
              PRINTS; PR00262; ILLHBGF.
ProDom; PD000831; ILL HBGF; 1.
SMART; SM00442; PGF; 1.
PROSITE; PS00247; HBGF_FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                            Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
Cercopithecinae; Macaca.
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ProDom; PD000831; IL1_HBG
SMART; SM00442; FGF; 1.
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                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9544;
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Pfam; PF00167; FGF; 1.
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Anim. Reprod. Sci. 64:65-75(2000)
EMBL; AF152587; AAF73226.1; -.
HSSP; P09038; 4FGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=20532861; PubMed=11078967; Wagener A., Blottner S., Goritz F., "Detection of growth factors in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Capreolus capreolus
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M00442; FGF; 1.
PS00247; HBGF_FGF; 1.
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108 AA;
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oblast growth f
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         HBGF_FGF; 1
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; 12399 MW; 6BC7B7244214567E CRC64;
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factor
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; Pred. No. 3.5e-1
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RESULT 11

QROFF9

ID QROFF

AC QROFF

AC QROFF

DT 01-UI

DT 01-MJ

DE Basic

GN FGF2.2

GN FF6.3

GN FF6.3

GN FF6.3

GN FF6.3

GN SEQUI
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Matches 35
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                                                                                                                                                                                                                          Q16443;
Q16443;
01-NOV-1996
                                       SEQUENCE FROM N.A.

MEDLINE-92182654; PubMed=1785797;

Florkiewicz R.Z., Shibata F., Barankiewicz T., Barankiewicz R.Z., Shibata F., Barankiewicz T., Barankiewicz E., Shah N.;

Gonzalez A.M., Florkiewicz E., Shah N.;

"Basic fibroblast growth factor gene expression."

Ann. N. Y. Acad. Sci. 638:109-126(1991).
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                   Ann. N. Y. Acad.
EMBL; S81809; AAE
HSSP; P09038; 1BF
                                                                                                                                              Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                         Homo sapiens (Human)
                                                                                                                                                                                     Basic fibroblast growth
                                                                                                                                                                                                 01-NOV-1996 (TrEMBLrel.
01-NOV-1996 (TrEMBLrel.
01-MAR-2003 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                 ProDom; PD000831; IL1 HBGF; 1.
SMART; SM00442; FGF; 1.
PROSITE; PS00247; HBGF FGF; 1.
SEQUENCE 155 AA; 17113 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR002348; IL1_HBGF.
Pfam; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fugu rubripes.";
Thesis (2001), University College
EMBL; AJ426040; CAD19830.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Basic fibroblast growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JUN-2002
01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Botcherby M.R.;
                                                                                                                                   NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=31033;
           nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'Comparative vertebrate genomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
PF00167; FGF;
                                                                                                                                                                                                                                                                                                                   ^{3}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11 IHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    35;
                                                                                                                                                                                                                                                                                                                                                                   35;
                                                                                                                                                                                                                                                                                                                                           Н
                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                               YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                                                 YCKNGGFFLRIRSDGAVDGTREKTDPHIKLQLQATSVGEVVIKGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
      IPR002348; IL1_HBGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       111
111 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TrEMBLrel. (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                   Conservative
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                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N.A.
                      1BFF.
                                AAB21432.2; -.
                                                                                                                                               Primates;
                                                                                                                                                            Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12633 MW;
                                                                                                                                                                                                                                                                                                                                                                              74.9%;
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01, Las
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1 factor
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Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
                                                                                                                                                                                                                                                                                                                                                                              Score 179;
Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score
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Pred. No.
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                                                                                                                                                Catarrhini;
                                                                                                                                                            Craniata;
                                                                                                                                                                                                                                                                                                                                                                                                                  AEFE12DBDC78FBBE CRC64;
                                                                                                                                                                                    (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EC0967A5261F5487 CRC64;
                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sequence analysis studies based
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       London,
                                                                                                                                                                                                                                                   114
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                                                                                                                                                         Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Euteleostei; Neoteleostei;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.7e-16;
                                                                                                                                                                                                                                                                                                                                                                              DB 13;
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                                                                                                                                               Hominidae;
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                                                                                  Baird
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                                                                                                                                                                                                                                                                                                                                                                                        Length 155;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         United
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RESULT 14
Q8SPL2
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000527
ACCC G G B B B B ACCC ACCC
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Best Local S
Matches 27
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Best Local S
Matches 27
                                                                                                                                                                    Q8SPL2
Q8SPL2;
Q8SPL2;
Q8SPL2;
Q1-JUN-2002 (TrEMBLrel. 21, C)
Q1-JUN-2002 (TrEMBLrel. 21, L)
Q1-MAR-2003 (TrEMBLrel. 23, L)
Q1-MAR-2003 (TrEMBLrel. 23, L)
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01-JAN-1998
01-JAN-1999
01-MAR-2003
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NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; .... Pfam; PRO0167; FGF; 1. ProDom; PD000831; IL1 HBGF; 1. ProDom; PD000831; IL1 HBGF; 1. Proposition of the proposit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G to A on position 19 and Submitted (NOV-1999) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Handschug K., Glaeser C.;
"Polymorphism in the 5' untranslated region of transition (79 by upstream of the first CTG co submitted (MAY-1997) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                000527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; AJ250952; CAB61690.1; -. HSSP; P09038; 1BFF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; Y1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Blood;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Basic fibroblast growth FGF-2 OR FGF2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Handschug K., Archoukieh E.,
"Mutations in the 5' untrans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE=Blood;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             l Similarity
27; Conserv
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l Similarity 100.0%;
27; Conservative (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             YCKNGGFFLRIHPDGRVDGVREKSDPH 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YCKNGGFFLRIHPDGRVDGVREKSDPH 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YCKNGGFFLRIHPDGRVDGVREKSDPH 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YCKNGGFFLRIHPDGRVDGVREKSDPH 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               114
114 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chordata;
Primates;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         kieh E., Glaeser C.;
untranslated region of the FGF-2 gene:
9 and transversion G to C on position 9
to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
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Pred. No.
                                                                                                                                                                                                                                                                                         Created)
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Pred. No. 2.4e-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98DC6381C1960C1D
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 114;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Perissodactyla; Equidae; Equus. NCBI_TaxID=9796; [1]

Euteleostomi;

Equus caballus (Horse)

FGF-1.

(Fragment)

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RESULT 15
Q9N1S8
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Matches 27
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Best Local Similarity 67.4%;
Matches 29; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Testis;
MEDLINE=20532861; PubMed=11078967;
Wagener A., Blottner S., Goritz F., Fi
"Detection of growth factors in the te
capreolus).";
Anim. Reprod. Sci. 64:65-75(2000).
EMBL; AF152586; AAF73225.1; -.
HSSP, P05230; 2AFG.
                                                                                                                                                                                                                                                                                                                   InterPro; IPR002348; IL1_HBGF.
Pfam; PF00167; FGF; 1.
PRINTS; PR00262; IL1HBGF.
ProDom; PD000831; IL1 HBGF; 1.
SMART; SM00442; FGF; I.
SMART; SM00442; FGF; I.
PROSITE; PS00247; HBGF FGF; 1.
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09N1S8;
01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-7000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Acidic fibroblast growth factor (Pragment).
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TISSUB-Endometrium;
Welter H., Bollwein H., Einspanier R.;
"Expression of horse endometrium.";
Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ439899; CAD29181.1;
InterPro; IPR002348; III_HBGF.
Pfam; PF00167; FGF; I...
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Capreolus capreolus (Roe deer).

Bukaryota; Metazoa; Chordata; Canniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidea;

Cervidae; Odocoileinae; Capreolus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                        2 CKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIK 43
                                                                                                                    Similarity 27; Conserv
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CRNGGHFLRILPDGTVDGTKDRSDQHIQLQLSAESIGEVYIK 42
                                                                                                                                                                                                                           106 106
106 AA; 11931 MW; 2EEC9C1D749A5023 CRC64;
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62 AA; 6851 MW;
                                                                                                                       Conservative
                                                                                                                 58.6%; Score 140; DB 6; Length 106; 64.3%; Pred. No. 3.2e-11; tive 5; Mismatches 10; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 148; DB 6; Length 62; Pred. No. 1.4e-12; 3; Mismatches 11; Indels
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testis of roe deer (Capreolus
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Search completed: January 30, 2004, 11:44:37 Job time : 47.6154 secs

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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seq length: 2000000000
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| SIDS1/gcgdata/geneseq/geneseqp-embl/AA1980.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*
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Gapop 10.0 , Gapext 0.5
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Copyright (c) 1993 - 2004 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Human colon cancer	AAB53387	21	105	67.9	53	90
Rat VEGF subunit A	AAB37505	22	146 12	88.5 67.9	5 6 9	8 7
Vascular endotheli VEGFA 146 amino ac	AAW53640 AAY57029	19 21	146 146	88.5 88.5	69 69	ი თ
Alternative form o Sequence of vascul	AAR22348 AAR27354	13	146 146	88.5	69	نا هد
Immunogenic peptid	AAB18544 AAB18545		13 20	100.0	78 69	יטר
Description	ID	•	Query Match Length DB	Query Match	Score	Result No.

11-MAR-1999;

99US-0266543

10-MAR-2000; 2000WO-US06320.

53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
٠	67.9	67.9	67.9		67.9	٠	67.9	67.9	•	67.9	67.9	67.9		•	•	•	67.9	67.9	•	•	•	•	67.9	•	•	•	•				•	•	67.9	67.9	67.9
524	514	512	506	500	472	399	384	381	377	377	371	368	367	339	222	212	148	148	147	147	147	147	147	147	147	147	147	147	146	121	121	121	121	121	121
17	17	17	17	17	24	17	17	24	24	17	24	24	24	24	24	24	17	17	23	22	22	22	21	21	21	19	17	16	20	24	22	20	20	14	12
AAW00594	AAR94073	AAW00590	AAW00588	AAW00589	AAE32404	AAW00587	AAR94071	AAE32407	AAE32408	AAW00586	AAE32399	AAE32396	AAE32400	AAE32402	AAE32397	AAE32398	AAR94032	AAR94031	ABB76299	AAB50431	AAB50427	AAB98080	AAY83033	AAY69412	AAY90402	AAW62524	AAR94001	AAR91075	AAY33438	AAE32329	AAB50428	AAY08278	AAY23943	0	AAR11385
	SAP (Gly4Ser) VEGF12	SAP-AlaMet-VEGF121	SAP-AlaMet-VEGF121	SAP-AlaMet-VEGF121	Human Ang-2X CCD/K	SAP (Gly4Ser) 4VEGF1	SAP (Gly4Ser) VEGF12	Human VEGF121/link	Human VEGF121/link	SAP-AlaMet-VEGF121	Human VEGF121/NL1	Human VEGF121/angi	VEGF121/NLS	Human KAP/VEGF121	Human VEGF121/HBNF	Human VEGF121/MK f	VEGF121 Cys+2. Ho	VEGF121 Cys+4. Ho	Human vascular end	Human VEGF121. Ho	Human vascular end	Human VEGF splice	Human vascular end	Amino acid sequenc	encode	id seq	VEGF121. Homo sap	Human vascular end	Parapox virus VEGF	Human vascular end	Mature human vascu	Human growth facto	Ō	VEGF-121.	. Human vascular end

ALIGNMENTS

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AAB18544;
Immunogenic peptide fragment derived from FGF and/or VEGF
                             15-JAN-2001
                                                                                    AAB18544 standard;
                             (first entry)
                                                                                   peptide;
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RRESULT 1
AAB18544
IID AAB18544
IID AAB18544
AC AAB1
AC AAB1
XX VImmu
DE Immu
XX Immu Immunogenic peptide; fibroblast growth factor; PGF; VEGF; cancer; vascular endothelial growth factor; hyperproliferative disorder; haemangioma; solid tumour; blood borne 'tumour; leukaemia; metastasis; telangiectasia; pooriasis; scleroderma; pyogenic granuloma; myocardial angiogenesis; Crohn's disease; plaque neovascularisation; arteriovenous malformation; corneal disease; rubeosts; neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia; arthritis; diabetic neovascularisation; macular degeneration; wound healing; peptic ulcer; Helicobacter related disease; fracture; keloid; vasculogenesis; hematopoiesis; ovulation; menstruation; WO200053219-A2 Unidentified. placentation; scratch fever.

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ARESULT 2
AAB18545
ID AAB1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB18542-51 represent immunogenic peptide fragments of fibroblast growth factor (FGF) and/or vascular endothelial growth factor (VEGF growth factor (VEGF The peptides are used to produce immunogenic compositions. The immunogenic composition is used for treating cancer or hyperproliferative disorders, especially haemangioms, solid tumours, blood boxes treating cancer approach to the contract of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             An immunogenic composition useful for treating cancer or hyperproliferative disorders comprises an immunogenic peptide fragment of fibroblast growth factor and/or vascular endothelial growth factor
                                               Holaday JW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200053219-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             arthritis; diabetic neovascularisation; macular degeneration; wound healing; peptic ulcer; Helicobacter related disease; fracture, keloid; vasculogenesis; hematopoiesis; ovulation; menstruation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         arteriovenous malformation; corneal disease; rubeosis; neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis; telangiectasia; psoriasis; scleroderma; pyogenic granuloma; myocardial angiogenesis; Crohn's disease; plaque neovascularisation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Immunogenic peptide; fibroblast growth factor; FGF; VEGF; cancer; vascular endothelial growth factor; hyperproliferative disorder;
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                                                                                                                                                                                                                                                                                        10-MAR-2000; 2000WO-US06320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Immunogenic
                                                                                                                                                                                                                                                                                                                                                                              14-SEP-2000
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                                                                                                                        (ENTR-) ENTREMED INC.
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13; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CRIKPEKCDKPRR 13
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                                           Ruiz A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
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                                                                                                                                                                                                          9908-0266543
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   peptide;
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                                               Madsen
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Pred. No. 7.8e-05;
; Mismatches 0;
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RESULT 3
AAR22348
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Best Local S
Matches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAB18542-51 represent immunogenic peptide fragments of fibroblast growth factor (FGF) and/or vascular endothelial growth factor (VEGF). The peptides are used to produce immunogenic compositions. The immunogenic composition is used for treating cancer or hyperproliferative disorders, especially haemangioma, solid tumours, helacederia, metastasis, telangiectasia, psoriasis, scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's disease, plaque neovascularisation, arteriovenous malformations, retrolental diseases, rubeosis, neovascular glaucoma, diabetic retinopathy, retrolental fibroplasia, arthritis, diabetic neovascularisation, macular degeneration, wound healing, peptic ulcer, Helicobacter related diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             An immunogenic composition useful for treating cancer or hyperproliferative disorders comprises an immunogenic peptide fragment of fibroblast growth factor and/or vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2000-594263/56
                        N-PSDB; AAQ23039
                                       WPI; 1992-098641/13.
                                                                                                                        21-SEP-1990;
21-SEP-1990;
                                                                                                                                                                                                                                                                                                                          Key
                                                                                                                                                                                                                                                                                                                                                     Rattus
                                                                                                                                                                                                                                                                                                                                                                              Rat glioma cell; GS-9L; conditioned medium; heterodimer; VEGF-II; homodimer; mitogenesis; vascular repair; blood vessel implant; polymerase chain reaction; alternative splicing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR22348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     menstruation, placentation and cat scratch fever.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 13; Page 28; 95pp; English.
                                                                                                                                                                                              25-MAR-1992
                                                                                                                                                                                                                                                                                Protein
                                                                                                                                                                                                                                                                                                          Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                       Alternative form of VEGF mature A-subunit with 120 amino acids.
                                                                                               (MERI ) MERCK & CO INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RTKPEKCDKPRR
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                                                                                                                        90US-0586640.
90US-0586638.
                                                                                                                                                                    91EP-0308489
                                                                 ť,
                                                                                                                                                                                                                                                   /label= VEGF_A-subunit
/note= "120 amino acids long"
                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                             /label= signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
                                                                   Thomas
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Pred. No.
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0.0023;
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Vascular endothelial cell growth factor II - used

as coating

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RESULT 4
AAR27354
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Best Local
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The full length coding region of the A subunit or monomer of VEGF is determined from three sets of overlapping CDMA clones. Degenerate oligo. primers based on the amino acid sequences Phe-Met-Asp-Val-Tyr-Gln from polypeptide 142 (residues 42-47) and Cys-Lys-Asn-Thr-Asp from polypeptide T38 (residues 164-168) were used to PCR amplify the central region of the cDNA for VEGF A chain. A single band migrating at 420 bp was gel purified, digested with Sall, ligated into pGEM/3Zf(+) and sequenced. The nucleotide sequence obtained (p4238) was used to design antisense and sense PCR primers
                                                                                                                                                                                                                                                                                       Disclosure; Fig 4; 61pp; English
                                                                                                                                                                                                                                                                                                                                                                       Vascular endothelial cell growth factor sub-units - which stimulate vascular endothelial cell growth, used for inducing tissue repair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1992-325745/40.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-MAR-1992;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence of vascular endothelial cell 146 amino acid residue subunit.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-MAR-2003
25-FEB-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAR27354;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 9; Page 14 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       artificial blood vessels or to promote tissue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (MERI ) MERCK & CO INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   development; mitogen; blood vessel; endothelial growth factor; neovascu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RTKPEKCDKPRR 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RTKPEKCDKPRR 13
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(first entry)
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0.014;
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RESULT 5
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ID AAW5
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                       The present sequence represents a rat vascular endothelial growth factor II (VEGF II) A subunit variant with a conversion of Asn 140 to Lys 140, and the deletion of His 141 to Arg 184 from the wild-type given in AAW53639. The present invention describes: (1) a mammalian VEGF II protein comprising an A subunit from AAW53649, AAW53640 or AAW53641, and a B subunit from AAW53638, AAW53639 or the first 115-135 amino acids of AAW53638; and (2) a mammalian VEGF comprising a heterodimer or homodimer of B subunits. The growth factor is used for promoting vascular development and repair and for promoting tissue repair.

N.B. The present sequence is not given inthe specification but is derived from Fig 5 as stated in the claim.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    to amplify the 5' and 3' ends of the cDNA. These 5' and 3' clones are denoted p5-15 and pW3, respectively. In addition to the cDNA coding the 164 amino acid secreted form identified by protein sequencing, two alternatively spliced cDNAs encoding a 146 amino acid and a 214 amino acid forms are cloned and sequenced. (Updated on 25-MAR-2003 to correct PN field.)
                                                                                                                                                                                                                             B sub-units
                                                                                                                                                                                                                                          Vascular endothelial
                                                                                                                                                                                                                                                                      WPI; 1998-206007/18
                                                                                                                                                                                                                                                                                                                                                                      31-AUG-1994;
21-SEP-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                31-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                 Claim 1;
                                                                                                                                                                                                                                                                                                                                                        05-JAN-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                            10-MAR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US5726152-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mitogenesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vascular endothelial cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW53640
                                                                                                                                                                                                                                                                                                                             (MERI ) MERCK & CO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           standard; Protein; 146
                                                                                                                                                                                                Page -; 46pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RTKPEKCDKPRR 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RTKPEKCDKPRR 13
146
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
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90US-0586638.
93US-0000834.
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                                                                                                                                                                                                                                                                                                                              INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              vessel
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       growth factor II A subunit variant
                                                                                                                                                                                                                                          growth factor proteins -
                                                                                                                                                                                                                                                                                                  Thomas
                                                                                                                                                                                                English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             growth.factor; VEGF II; rat; glioma cell;
growth; artificial blood vessel.
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Pred. No.
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0.014;
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Query Match Best Local 9

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Conservative

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DB 19;

Length 146;

Indels

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RESULT 7
AAB37505
ID AAB3
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AC AAB3
XX
AC AAB3
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DT 26-F
XX
DE Rat
XX
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ARAY57029
ID ARY57
XX AAY5
XX VEGF
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Best Local S
Matches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This is the amino acid sequence of a 146 amino acid residue A subunit of vascular endothelial cell growth factor (VEGF). The invention relates to a purified and isolated VEGF C subunit amino acid sequence AAY57025. VEGF exists in various microheterogenous forms, and is useful for the promotion of vascular development and repair. The invention also relates to human VEGF heterodimers AC or BC and homodimer CC, where A, B and C are subunit amino acid sequences. The VEGF AC, BC or CC amino acid sequences can be used in a tissue repairing pharmaceutical composition. The novel growth factors are useful for the production or coverage of artificial blood vessels with vascular endothelial cell. They are also useful for the induction of tissue growth and repair.
                                Rat VEGF subunit A SEQ ID NO:
                                                                                         26-FEB-2001
                                                                                                                                              AAB37505;
                                                                                                                                                                                                AAB37505 standard; Protein; 146 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Fig 3; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Purified and isolated vascular endothelial cell growth factor C subunit for the induction of tissue repair or growth -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2000-038268/03.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-MAR-1991;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-NOV-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VEGF; vascular endothelial growth factor; A subunit; tissue growth; vascular development; artificial blood vessel; repair; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VEGFA 146 amino acid residue subunit sequence
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12; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              146 AA;
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                                                                                   (first entry)
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Pred. No.
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0.014;
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RESULT 8
AAY23944
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Best Local S
Matches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention is concerned with the human vascular endothelial growth factor (VEGF) C subunit. VEGF is a vascular endothelial cell mitogen and can be used to promote vascular development and repair. The C subunit may exist as a homodimer or a heterodimer with the VEGF A or B subunit. VEGF can be used in the treatment of wounds of mammals, to cover
                                                                                                                                                                                                                                                      AAY23944;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             growth.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human vascular endothelial cell growth factor (VEGF) C subunit DNA protein, useful for promoting vascular development and repair, and promoting tissue repair, especially for treating wounds in mammals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vascular endothelial growth factor; VEGF C subunit; cell division; artificial blood vessel; tissue growth; tissue repair.
                                                                                                       06-JUL-1999
                                                                                                                               JP11178593-A.
                                                                                                                                                      Homo sapiens.
                                                                                                                                                                              Vascular endothelial growth factor; VEGF; VEGF 121; monoclonal antibody.
                                                                                                                                                                                                                              21-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          artificial blood vessels with vascular endothelial cells, in the production of artificial blood vessels and to induce tissue repair or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 9; Fig 4; 58pp; English.
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28-MAR-1991;
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                                (FJRE ) FUJIREBIO KK
                                                                               24-DEC-1997;
                                                                                                                                                                                                     Peptide derived from vascular endothelial growth factor (VEGF) 121.
                                                                                                                                                                                                                                                                             AAY23944 standard; peptide; 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (MERI ) MERCK & CO INC.
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                                                                                                                                                                                                                                                                                                                                         135 RTKPEKCDKPRR 146
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                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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                                                        97JP-0365972
                                                                                97JP-0365972.
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91US-0676436.
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                                                                                                                                                                                                                                                                                                                                                                                                  88.5%;
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Pred. No.
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0.014;
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WPI; 1999-437318/37

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ARESULT 9
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called human colon cancer antigens, given in AAB53234 to AAB54006. The human colon cancer antigens can have cytostatic, cardioactive, muscular; neuroprotective, immunomodulatory, gynaecological, gastrointestinal, vulnerary, nephrotropic, antiinfective and antibacterial activities, and can be used in gene therapy. The colon cancer antigen polynucleotides, proteins and antibodies to the proteins cance useful for the prevention, treatment and diagnosis of colon disorders, such as colon cancer. The polynucleotides may be used in diagnostics and research, such as for chromosome identification, and as hybridisation probes. The proteins
                                                                                                                                                                                                                                                     AAC97991 to AAC98763 encode the human colon cancer associated proteins, called human colon cancer antigens, given in AAB53234 to AAB54006. The
                                                                                                                                                                                                                                                                                                                                                     Claim 11; Page 1486; 2104pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                     disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                        Colon cancer associated gene sequences, referred to as colon cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2000-587534/55.
N-PSDB; AAC98144.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          neural disorder; immune system disorder; muscular disorder; reproductive disorder; gastrointestinal disorder; renal disorder; infectious disease; cardiovascular disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                immunomodulatory; muscular; gynaecological; gastrointestinal;
nephrotropic; antiinfective; antibacterial; gene therapy; wound;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; colon cancer; colon cancer antigen; diagnosis; detection
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      09-MAR-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence is derived from vascular endothelial growth factor (VEGF) 121. The specification describes a monoclonal antibody which is specific to VEGF 121, and a hybridoma producing this antibody. The antibody is used in a method for measuring the amount of VEGF 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 1; Page 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New VEGF121-specific monoclonal antibody - useful for measuring levels of VEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       dentification; cytostatic; cardioactive; neuroprotective; vulnerary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
mes 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   r
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                  such as colon cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ruben SM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cancer antigen protein sequence SEQ ID NO:927.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0124270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      67.9%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                105 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 53;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  growth factor
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RESULT 10
AAR11385
ID AAR11
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AC AAR11
XX
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        The two forms of VEFG (AAQ10797 and AAQ10917) which arise through CC different message splicing, have different properties. In partic. CC hyegfill does not bind to heparin leaving more of the protein free to bind to VEGF receptor and increase the half-life and distribution of the protein in circulation, whereas hBEGF165 binds heparin strongly. The product can be used for angiogenesis and re-endothelialisation of inner vascular surfaces in wound healing, e.g. treatment. of full-thickness wounds such as dermal ulcers, venous ulcers and diabetic ulcers, burns, in surgery, in balloon angioplasty and for the in vitro culturing of endothelial cells. Hybrid growth factors of PDGF and VEGF can exhibit a mitogenic profile between each factor and can be used for wound healing or as inhibitors of angiogenesis for e.g. preventing the growth of tumours.

CC VEGF analogues in which CYS residues are substd. are more stable. See also AAQ10791-93, AAQ10796-97, AAQ10806-08 and AAQ11099.

CC (Updated on 25-MAR-2003 to correct PA field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              system disorders, muscular disorders, reproductive disorders, gastrointestinal disorders, wounds, renal disorders, infectious diseases, and cardiovascular disorders. AAC98764 to AAC98772 and AAB54007 represent sequences used in the exemplification of the
                                                                                                                                                                                                                                                                                   Disclosure; Fig 7(1-2); 94pp; English.
                                                                                                                                                                                                                                                                                                                                DNA encoding vascular endothelial cell growth factor - used for producing the factor for angiogenesis and re-endothelialisation
                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; AAQ11099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14-DEC-1989;
27-JUL-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bos taurus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bovine vascular endothelial cell growth factor; angiogenesis; wound healing; hVEGF; PDGF.
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08-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAR11385;
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                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1991-073534/10.
                                                                                                                                                                                                                                                                                                                                                                                                                                   Tischer ER,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-FEB-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO9102058-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human vascular endothelial cell growth factor 121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR11385 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 may also be used to prevent diseases such as neural disorders,
                                                                                                                                                                                                                                                                                                                     in wound healing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (CALD ) CALIFORNIA BIOTECHNOLOGY INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94
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9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RARQEKCDKPRR 105
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                                                                                                                                                                                                                                                                                                                                                                                                                                 Abrhamam,
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(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89US-0450883.
89US-0387545.
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                                                                                                                                                                                                                                                                                                                                                                                                                                 Fiddes JC, Mitchell RL;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21;
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RESULT 11
AAR42607
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 Best Local
Matches
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Best Local
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                      Query Match
                                                                                                                                                                                                                                                                                                             27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
                                                            The sequence of AAQ44260 contains an open reading frame corresponding to the 165 amino acid human vascular endothelial cell growth factor (NVEGF-165, see AAR38921). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 121 amino acid NVEGF (see AAR42607). The full-length coding sequences can be generated using PCR with human foetal vascular smooth muscle poly-A+ RNA as template.

(Updated on 25-MAR-2003 to correct PF field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                           Sequence
                                                                                                                                                            Claim 3; Fig 7; 40pp; English.
                                                                                                                                                                                          Isolated DNA sequences, expression vectors and transformant cells - used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                                                                                                                                                                                                WPI; 1993-205302/25.
                                                                                                                                                                                                                                                                     Abraham
                                                                                                                                                                                                                                                                                                                                                       27-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                 US5219739-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
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Vascular Endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human VEGF-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25-MAR-2003
28-OCT-1993
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                                                                                                                                                                                                                                                                                                                                                                             15-JUN-1993.
                                                                                                                                                                                                                                                                                          (SCIO-)
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 Similarity 9; Conser
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                                            121 AA;
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  Conservative
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(first en
                                                                                                                                                                                                                                                                    Fiddes JC,
                                                                                                                                                                                                                                                                                         NOVA INC.
                                                                                                                                                                                                                                                                                                            89US-0387545.
89US-0450883.
90US-0559041.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A,
                                                                                                                                                                                                                                                                                                                                                       90US-0559041.
                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "Lys 115 of hVEGF-121 is replaced by 44
   amino acids encoded by an alternative!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                              note= "inserted amino acid relative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           healing; mitogen; vascular endothelial cells; 1 Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            67.9%;
75.0%;
         67.9%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                     amino acids encoded by an alternatively spliced exon in hVEGF-165 (see AAR38921)"
                                                                                                                                                                                                                                                                    Mitchell RL,
Pred. No. 2.4;
1; Mismatches
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Pred. No. 2.
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                                                                                                                                                                                                                                                                    Tischer EG;
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                      DB 14;
           4.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 121;
                     Length 121;
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AAY23943
ID AAY23
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AAY08278
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                                                                                                                                                                                                                                                                                                               Best Loc
Matches
                                                                                                                                                                                                                                                                                       Query Match
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                                                                         Growth factor; pharmaceutical.
                                                                                                                              14-JUL-1999
                                                                                                                                                  AAY08278;
                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                   present
                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page 5; 6pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                     New VEGF121-specific monoclonal antibody - useful for measuring levels of VEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-JUL-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JP11178593-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Amino acid sequence of vascular endothelial growth factor (VEGF) 121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY23943;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY23943
            06-MAY-1999.
                                 DE19748734-A1
                                                     Homo sapiens.
                                                                                                        Human growth factor protein
                                                                                                                                                                       AAY08278 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (FJRE ) FUJIREBIO KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vascular endothelial
                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             110 RARQEKCDKPRR
                                                                                                                                                                                                                           110
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                                   h 67.9%;
Similarity 75.0%;
9; Conservative
                                                                                                                                                                                                                                                                                                                                  in a sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         standard; peptide; 121
                                                                                                                                                                                                                           RARQEKCDKPRR 121
                                                                                                                                                                                                                                               RTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RTKPEKCDKPRR
                                                                                                                                                                                                                                                                                                              121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                              (first entry)
                                                                                    human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97JP-0365972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97JP-0365972
                                                                                                                                                                       Protein; 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13
                                                                                    dimer; cysteine knot; cellular
                                                                                                         fragment VEGF-A121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     factor;
                                                                                                                                                                                                                                                                              Score 53;
Pred. No.
                                                                                                                                                                        ₽
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                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VEGF;
                                                                                                                                                                                                                                                                               2.4;
                                                                                                                                                                                                                                                                                         DΒ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VEGF
                                                                                                                                                                                                                                                                                          20;
                                                                                                                                                                                                                                                                     2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121;
                                                                                                                                                                                                                                                                                         Length 121;
                                                                                                                                                                                                                                                                     Indels
                                                                                      inclusion body;
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                                                                                                                                                                                                                                                                     Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2550). AXV88278-Y08301 are human growth factor protein fragments used in the method of the invention.
 Vascular endothelial growth factor dimer, hypertension, polycystic kidney diseases,
                                      WPI; 2001-041064/05.
N-PSDB; AAC90473.
                                                                                                                                  20-MAY-1999; 99US-0135312.
20-JAN-2000; 2000US-0177407.
                                                                                                                                                                                                                                                          peripheral arterial disease; coronary artery disease; hypoxia; essential hypertension; microvascular angiopathy; hypercapnia; polycystic kidney disease; vascular endothelial cell repair; lung disease; kidney disease; inflammatory bowel disease.
                                                                                                                                                                                                                                                                                                                                          Human; vascular endothelial growth factor; VEGF; VEGF dimer;
                                                                                                                                                                                                                                                                                                                                                                Mature human vascular endothelial growth factor polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                  AAB50428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Preparing active growth yield
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1999-278785/24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Erdmann H,
                                                                                   Jue RA,
                                                                                                                                                                      18-MAY-2000; 2000WO-US13636
                                                                                                                                                                                              30-NOV-2000
                                                                                                                                                                                                                      WO200071716-A2
                                                                                                                                                                                                                                           Homo sapiens.
                                                                                                                                                                                                                                                                                                                              hypotensive; litholytic; nephrotropic; antiarteriosclerotic;
                                                                                                                                                                                                                                                                                                                                                                                          13-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                        AAB50428 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       05-NOV-1997;
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                                                                                                            (SCIO-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (GBFB )
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                                                                                                           SCIOS INC
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                                                                        Schellenberger U,
A, Pollitt NS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RARQEKCDKPRR 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Page 7; 14pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kaerst U,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BIOTECHNOLOGISCHE
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                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97DE-1048734.
                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             67.9%;
75.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       factor dimers
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                                                                                   Stathis PA,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 53;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       from inclusion bodies in high
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 20;
                                                                                     Adriaenssens
useful for treating essential microvascular angiopathy and
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 121;
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                                                                                     PI,
                                                                                     Abraham
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RESULT 15
AAE32329
ID AAE32329
XX AAE32
XX AAE32
XX VABCU
AC AAE32
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 9
                                                                                                                                                                                                             portion, mammals
                                                                                                                                                                                                                                New fusion protein comprising a non-heparin-binding vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF portion, useful for promoting angiogenesis and/or bone growth in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vascular endothelial growth factor; VEGF; angiogenesis; wound healing; bone growth; osteoporosis; osteoarthritis; bone reconstruction; ulcer; lesion; injury; trauma; periodontal condition; protein therapy; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequence, and retaining a cysteine at or corresponding to position 116, which is disulphide-bonded to an additional extraneous cysteine. The VEGF dimer is useful for inducing angiogenesis and vascular remodelling, treating peripheral arterial disease, coronary artery disease, essential hypertension, microvascular angiopathy and polycystic kidney disease, and repair of vascular endothelial cell layers. It is also useful for treating injuries, wounds, hypoxia, hypercapnia, pulmonary dysfunction, kidney diseases arising from disordered transport of solutes and fluids across the intestinal epithelium including inflammatory bowel disease, and disorders due to accumulation of ascites in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence encodes a monomer of a vascular endothelial growth factor (VEGF) dimer. The dimer comprises a first and a second monomer, each comprising at least amino acids 11-116 of a defined 147 amino acid sequence, or a sequence having at least 90% identity to the defined
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAE32329;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAE32329 standard; Protein; 121 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
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                                                                                                                                                Disclosure; Page 118;
                                                                                                                                                                                                                                                                                                                                                           N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2003-075536/07.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10-APR-2001; 2001US-0832355.
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                                                                                                                                                                                                                                                                                                                                                                                                                                              Kovesdi I,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (GENV-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     110
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kessler
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  endothelial growth factor (VEGF)121
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75.0%;
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Pred. No.
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2.4;
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                                                                                                                                                                                                                                                               peptide
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The invention relates to a fusion protein comprising non-heparin binding vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF peptide portion and seful for promoting angiogenesis and/or bone growth in mammalian host. The fusion protein is useful for promoting angiogenesis,

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CC wound healing and bone growth. Compositions containing bone growth
CC promoting fusion protein can be used to treat osteoporosis, rheumatoid
CC or osteoarthritis, to improve poor bone healing, to promote implant
CC integration and function of artificial joints and to facilitate bone
CC reconstruction. They can also be used to treat e.g. ulcers, lesions,
CC injuries, burns, trauma, periodontal conditions, lacerations and other
CC conditions. The invention is also useful in protein therapy. The present
CX sequence is human VEGF121 protein.

XX Sequence 121 AA;
Query Match
Best Local Similarity 75.0%; pred. No. 2.4;
Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 2 RTKPEKCDKPRR 13
Db 110 RARQEKCDKPRR 121

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Perfect score:
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re greater than or equal to the score of the result being printed,
is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       seq
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length: 2000000000
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Gapop 10.0 , Gapext 0.
328717 seqs, 42310858 residues
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/cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
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(c) 1993 - 2004
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                                      US-09-431-888-3

US-09-037-983C-17

US-09-252-991A-30631

US-09-252-991A-31607

US-09-252-991A-31607

US-09-252-991A-25699

US-08-391-615-5

US-08-807-992B-13

US-08-807-992B-13

US-08-807-992B-16

US-08-807-992B-16

US-08-907-992B-16

US-08-907-992B-16

US-08-907-992B-17

US-08-807-992B-16

US-08-807-992B-16

US-08-807-992B-17
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US-09-392-932-1
US-08-706-054A-4
US-09-574-708A-2
US-09-313-299-4
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US-09-699-769-33
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Compugen Ltd
            Sequence 25699, A. Sequence 5, Appli Sequence 7, Appli Sequence 13, Appl Sequence 16, Appl Sequence 30, Appl Sequence 17914, A Sequence 15, Appl Patent No. 5194596
                                                                                                                                                                                                                                                                                                                                    Sequence 33, Appl
Sequence 33, Appl
Patent No. 5194596
Patent No. 5219739
Sequence 1, Appli
Sequence 4, Appli
Sequence 4, Appli
Sequence 4, Appli
Sequence 4, Appli
Sequence 3, Appli
Patent No. 5219739
Sequence 3, Appli
Sequence 3, Appli
                                                                                                                                                                                                                                       Sequence
Sequence
Sequence
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                                                                                                                                                                                                                                                                                                                  Sequence
                                                                3, Appli
21174, Appl
21174, A
30631, A
70, Appl
31607, A
25699, A
25699, A
25699, A
31, Appli
13, Appl
13, Appl
13, Appl
30, Appl
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4. 70	44	43	42	41	40	39	38	37	36	35		ω ω	32	31	30	29	28
39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39
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191	191	191	191	191	191	191	190	190	190	190	189	182	165	165	165	165	164
4.	4	4	w	w	ω	w	σ	4	w	N	_	4.	Φ	0	4	4	0
US-08-882-816-2	US-09-355-700-56	US-09-392-932-3	US-08-795-430-56	US-08-691-794-2	US-08-807-992B-2	US-08-567-200A-2	5332671-3	US-09-699-769-31	US-08-586-039B-31	US-08-569-063C-20	US-08-469-427A-15	US-09-252-991A-25842	5219739-19	5194596-18	US-08-802-052B-3	US-08-882-816-3	5219739-18
Sequence 2, Appli	Sequence 56, Appl	Sequence 3, Appli	56,	•	•	Sequence 2, Appli	. 533	•	31,	Sequence 20, Appl	Sequence 15, Appl	Sequence 25842, A	Patent No. 5219739	Patent No. 5194596	Sequence 3, Appli	Sequence 3, Appli	Patent No. 5219739 ·

ALIGNMENTS

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US-08-586-039B-33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 1
US-08-586-039B-33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 33, Application Patent No. 6140073
                                                                                                                                                                                            APPLICATION NUMBER: US/08/586,039B
FILING DATE: 16-JAN-1996
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18361DA
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: Bayne, Marvin L.
APPLICANT: Thomas Jr., Kenne
TITLE OF INVENTION: VASCULAN
TITLE OF INVENTION: SUBUNIT
NUMBER OF SEQUENCES: 49
                                                                                                TELEFAX: (908) 594-472
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: USA
ZIP: 07065-0900
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
            TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                    TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 126 | CITY: Rahway
                                                                                                                                                                               TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: Merck & Co., Inc.
STREET: 126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New Jersey
                                                                                                146 amino acids
                                                                                                                                                                                 (808)
                                                                                                                                                            594-4720
                                                                                                                                                                                 594-3905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
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Query Match
Best Local Similarity
Matches 12; Conserv

88.5%; Score 69; DB ilarity 100.0%; Pred. No. 0.0 Conservative 0; Mismatches

DB 3; hc... 3. 0.0027; 0;

Length 146; ; 0; Indels

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Gaps

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RTKPEKCDKPRR 13

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TOPOLOGY: linear is MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SUS-09-699-769-33
               5194596-19
;Patent No. 5194596
;Patent No. 5194596
;APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN
;C.;MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
;GROWTH FACTOR
                                                                                                                                                                                       밁
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US-09-699-769-33
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                                                                                                                                RESULT 3
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Patent No. 6569434
GENERAL INFORMATION:
APPLICANT: Bayne, Marvin L.
                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: (732) 594-391
TELEFAX: (732) 594-4720
INFORMATION FOR SEQ ID NO: 33:
NUMBER OF SEQUENCES: 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 08/586,039
FILING DATE: 16-JAN-1996
APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1933
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18361DB
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/699,769
FILING DATE: 30-Oct-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
                                                                                                                                                                                       135 RTKPEKCDKPRR 146
                                                                                                                                                                                                                                                               12;
                                                                                                                                                                                                                          N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Microsoft Word 6
                                                                                                                                                                                                                        RTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: <Unknown>
APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: USA
ZIP: 07065-0900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE: New Jersey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Rahway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RTKPEKCDKPRR 146
                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Hand, J. Mark
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: Merck & Co., Inc.
STREET: 126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 146 amino acids
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                                                                                                                                                                                                                                                     conservative (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (732) 594-3905
                                                                                                                                                                                                                                                                                              88.5%;
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Pred. No.
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0.0027;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOHN C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND ;
;HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN ;
;VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121 NUMBER OF SEQUENCES: 40
;CURRENT APPLICATION DATA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO:19:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO:20:
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Best Local
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Best Local
                                                                                                                                                                                                                                                                                                                                  Sequence 1, Application US/08807992B Patent No. 6022541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                               TITLE OF INVENTION: Immu
TITLE OF INVENTION: spec
TITLE OF INVENTION: peru
TITLE OF INVENTION: vess
NUMBER OF SEQUENCES: 31
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                              ZIP: 01930
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA:
                                                                                                         STATE: Magnolia
                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                   APPLICANT:
COMPUTER: IBM PS/1
OPERATING SYSTEM: |
SOFTWARE: WordPerf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 387,545 FILING DATE: 27-JUL-1989
                                                                                                 COUNTRY:
                                                                                                                                                   STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/07/559,041 FILING DATE: 27-JUL-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 121
                                                                                                                                                                   ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                         110 KARQEKCDKPRR 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               110 KARQEKCDKPRR 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5219739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 RTKPEKCDKPRR 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity 9; Conserv
                                                                                                                    Massachusetts
                                                                                                                                                   P.O. Box 5387
                                                                                                  USA
                                                                                                                                                                                                                                                                                     Dvorak,
                                                                                                                                                                                                                                                                                                   Senger, Donald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
 SYSTEM: MS DOS
WordPerfect version 5.1
                                                                                                                                                                    David Prashker,
                                                Diskette, 3.50 inch,
                                                                                                                                                                                                                                                                           Harold F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               67.9%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       67.9%;
75.0%;
                                                                                                                                                                                                                                   Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blood
                                                                                                                                                                                                                     vessel

    Mismatches

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 53; DB 6
Pred. No. 0.49;
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 53; DB 6
Pred. No. 0.49;
                                                                                                                                                                    Esq
                                                  1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 6;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 121;
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APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN FILE REFERENCE: SCIOS. 002A.
CURRENT APPLICATION UNMBER: US/09/392,932
CURRENT FILING DATE: 1999-09-09
EARLIER APPLICATION NUMBER: 60/099,694
EEARLIER FILING DATE: 1998-09-09
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSEQ for Windows Version 4.0
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Best Local Similarity
'Arches 9; Conserva
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                                                                                                                                                                                                                                                       RESULT 7
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                                                                                                                                                                           Sequence 4, Application US/08706054A Patent No. 6451764
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 1
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INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
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Local Similarity 75.0%;
nes 9; Conservative
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FILING DATE: March 3, 1997
CLASSIFICATION: 424
                                                         APPLICANT: Lee, James

Wood, William I.

TITLE OF INVENTION: VEGF-Related Protein
NUMBER OF SEQUENCES: 12

CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     136 RARQEKCDKPRR 147
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             STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
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COUNTRY: USA
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Pred. No. 0.59
1; Mismatches
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-574-708A-2
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US-09-574-708A-2
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Matches
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Best Local Similarity
Matches 9; Conserv
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SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 2, Application US/09574708A Patent No. 6475796
                                                                                                          Query Match
                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/574,708A CURRENT FILING DATE: 2000-05-18 PRIOR APPLICATION NUMBER: US 60/135,312 PRIOR FILING DATE: 1999-05-20 NUMBER OF SEQ ID NOS: 11
                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: Vascular endothelial growth factor TITLE OF INVENTION: variants
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 4:
                                                                     Local Similarity
les 9; Conserv
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NAME: Lee, Wendy M.
REGISTRATION NUMBER: P-40,378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/706,054A
FILING DATE: 30-Aug-1996
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE DESCRIPTION: SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: TELECOMMUNICATION INFORMATION: TELEPHONE: 415/225-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
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136 RARQEKCDKPRR 147
                                    2 RTKPEKCDKPRR 13
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                                                                                                                                                                                                                                        FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 147 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPatin (Genentech)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 60/003491 FILING DATE: 08-Sep-1995
                                                                                                                                                                                                                                                                                                                                                                                                                              N. Stephen Pollitt
                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                       67.9%;
75.0%;
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75.0%;
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                                                                     Score 53; DB 4; Length 147; Pred. No. 0.59; Indels 1; Mismatches 2; Indels
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Pred. No. 0.59;
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RESULT 9 US-09-313-299-4

Sequence 4, Application US/09313299B Patent No. 6576608

GENERAL INFORMATION

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PATENT NO. 5219739

PATENT NO. 5219739

APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND HUMEN FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF121

VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF121

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/559,041

FILING DATE: 27-JUL-1990

PRIOR APPLICATION DATA:
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5219739-9
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APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN
;C.;MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO:9:
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Best Local Similarity
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Matches 9; Conserv
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APPLICANT: Wood, William I.
TITLE OF INVENTION: VEGE-RELATED PROTEIN
FILE REFERENCE: P0963R1D1
CURRENT APPLICATION NUMBER: US/09/313,299B
CURRENT FILING DATE: 1999-05-17
CURRENT FILING DATE: 1999-05-17
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TYPE: PRT
ORGANISM: Human
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EARLIER APPLICATION NUMBER: US 08/706,054
EARLIER FILING DATE: 1996-08-30
EARLIER APPLICATION NUMBER: US 60/003,491
EARLIER FILING DATE: 1995-09-08
NUMBER OF SEQ ID NOS: 12
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LOCATION: 1-147
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APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE: 27-JUL-1989
APPLICATION NUMBER: 450,883
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61.1%;
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US-09-037-983C-17
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APPLICATION NUMBER: 387,545
; FILING DATE: 27-JUL-1989
;SEQ ID NO:9:
LENGTH: 120
                                                                                                                                                                                                                                                         Sequence 17, Application US/09037983C Patent No. 6583276
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
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Best Local Similarity
                                                                                                                                                                                                                                           GENERAL INFORMATION:
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Matches 8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
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APPLICANT: Mercer, Andrew A
APPLICANT: Savory, Loreen J
APPLICANT: Fleming, Stephen B
APPLICANT: Stacker, Stephen B
APPLICANT: Stacker, Stephen
TITLE OF INVENTION: VASCULAR ENOTHELIAL GROWTH FACTOR-LIKE PROTEIN FROM ORF
TITLE OF INVENTION: VIRUS NZ2 BINDS AND ACTIVATES MANMALIAN VEGF
TITLE OF INVENTION: RECEPTOR-2, AND USES THEREOF
FILE REFERENCE: Sequence Listing for 09/431,833
                                    APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Dise
FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
                                                                                                                                                                          APPLICANT: Newfeld,
APPLICANT: Keshet,
APPLICANT: Vlodavs)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EARLIER APPLICATION NUMBER: 60/106,800 EARLIER FILING DATE: 1998-11-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/431,888A CURRENT FILING DATE: 1999-11-02 EARLIER APPLICATION NUMBER: 60/106,689 EARLIER FILING DATE: 1998-11-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQ ID NOS: 11
SOFTWARE: PatentIn version 3.1
                        NUMBER OF SEQ ID NOS: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 147
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 48; DB 4;
Pred. No. 3.2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
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SEQ ID NO 17

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Best Local Similarity
Thehas 7; Conserva
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LENGTH: 168
; TYPE: PRT
; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-21174
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US-09-252-991A-30631
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; ORGANISM: Homo sapiens
US-09-037-983C-17
                                                                                                                                         US-09-252-991A-30631
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                                          Query Match
Best Local Similarity 63.6
"Ches 7; Conservative
                                                                                                                                                   PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 30631
LENGTH: 704
TYPE: PRT
ORGANISM: Pseudomonas aeruginosa
ORGANISM: Pseudomonas aeruginosa
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                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 30631, Application US/09252991A Patent No. 6551795
                                                                                                                                                                                                                                                                              FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR FILING DATE: 1998-02-18
                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION: APPLICANT: Marc J.
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CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 199-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR FILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: MARC J. RUBENFIELD Et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: ABRUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS:
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                        1 CRTKPEKCDKP 11
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CRTAPSICRKP 14
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Pred. No. 14;
2; Mismatches
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Pred. No. 1.
                                                                   Mismatches
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                                                                   4; Indels
                                                                                                    Length 704;
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Search completed: January 30, 2004, 11:47:51 Job time: 6.53333 secs

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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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seq length: 2000000000
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Match
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Gapop 10.0 , Gapext 0.5
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78
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: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep:*
: /cgn2_6/ptodata/2/pubpaa/USO6_NEW_PUB.pep:*
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: /cgn2_6/ptodata/2/pubpaa/USO7_NEW_PUB.pep:*
: /cgn2_6/ptodata/2/pubpaa/USO9_PUBCOMB.pep:*
: /cgn2_6/ptodata/2/pubpaa/USO8_NEW_PUB.pep:*
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                                                                                                                                                                                                                                                                                                                                                                                                Length
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                      15 US-10-156-932-73

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9 US-09-925-299-927

11 US-09-923-355A-1

12 US-10-346-802-4

12 US-10-392-931-2

13 US-10-392-931-2

14 US-10-083-817-1

15 US-10-683-817-1

15 US-09-832-355A-84

11 US-09-832-355A-94

11 US-09-832-355A-94

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Sequence 73, Appl
Sequence 81, Appl
Sequence 927, App
Sequence 927, App
Sequence 1, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 2, Appli
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Sequence 3, Appli
Sequence 94, Appl
Sequence 97, Appl
Sequence 97, Appl
Sequence 97, Appl
Sequence 94, Appl
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US-10-318-302-1	18-302-	02-	-10-295-027-		8-2	09-925-3	-832-355	-09-832-355A-	-10-263-	-10-263-162-	-10-263-162-	US-10-263-162-13	3-162-	US-10-263-162-50	US-10-263-162-51	63-162-	US-10-263-162-14	Ψ	US-09-832-355A-61	US-10-196-793A-57	US-09-832-355A-62	9-832-355A-	US-10-053-637-28	9-	US-10-053-637-24	32-355A-	US-09-832-355A-103	32-3	US-09-832-355A-74
Sequence 1, Appli	0 2	e 3, Appl	e 16:	60, A	ce 417	1117	60,	59,	e 12,	e 4,	e 49,	e 13,	e 15,	e 50,	e 51,	e 16,	e 14,	e 19,	Φ	e 57,	e 62,	e 8,	e 28,	e 126,	e 24,	e 100,	e 10	e 89,	Sequence 74, Appl

ALIGNMENTS .

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RESULT 2
US-10-156-932-81
US-10156-932-81
; Sequence 81, Application US/10156932
; Publication No. US20030069181A1
; GENERAL INFORMATION:
; APPLICANT: Wong, Albert J.
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US-10-156-932-73
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Publication No. US20030069181A1

GENERAL INFORMATION:

APPLICANT: Wong, Albert J.

TITLE OF INVENTION: Alternative Splice Forms of Proteins as
TITLE OF INVENTION: Basis for multiple Therapeutic Modalities
FILE REFERENCE: 8321-81

CURRENT APPLICATION NUMBER: US/10/156,932

CURRENT FILING DATE: 2002-05-28

PRIOR APPLICATION NUMBER: US 60/293,791

PRIOR PRIOR DATE: 2001-03-25

NUMBER DE SEO IN NOS. 03
                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 73
LENGTH: 12
TYPE: PRT
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                                                                                                                                                                                                                                      Matches
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                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: VEGF alt splice
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                                                                                                                                                                                  2 RTKPEKCDKPRR 13
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100.0%; Pred. No.
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GENERAL INFORMATION:

APPLICANT: ROSEN et al.

TITLE OF INVENTION: Nucleic Acids, Proteins and FILE REFERENCE: PA102

CURRENT APPLICATION NUMBER: US/09/925,299

CURRENT FILING DATE: 2001-08-10

PRIOR APPLICATION NUMBER: PCT/US00/05883

PRIOR FILING DATE: 2000-03-08

PRIOR APPLICATION NUMBER: 60/124,270

PRIOR APPLICATION NUMBER: 60/124,270

PRIOR APPLICATION NUMBER: 50/124,270

PRIOR PILING DATE: 1999-03-12

NUMBER OF SEQ ID NOS: 1556

SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                    US-09-925-299-927; Sequence 927, Ag; Publication No.
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US-09-925-299-927
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/925,299
CURRENT FILLING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05883
PRIOR FILING DATE: 2000-03-08
PRIOR APPLICATION NUMBER: 60/124,270
PRIOR APPLICATION NUMBER: 60/124,270
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins
FILE REFERENCE: PA102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: 8321-81
CURRENT APPLICATION NUMBER: US/10/156,932
CURRENT FILING DATE: 2002-05-28
PRIOR APPLICATION NUMBER: US 60/293,791
PRIOR FILING DATE: 2001-05-25
NUMBER OF SEQ ID NOS: 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: Alternative Splice Forms of Proteins as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE: OTHER INFORMATION: VEGF alt splice #1 peptide + C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 13
TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ENGTH: 105
                                                                                                                                                                                                                                                                                                                                                          94 RARQEKCDKPRR 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12; Conservative
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o. US20030040617A9
                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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100.0%;
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Pred. No.
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Pred. No.
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                                                                                                                                                                            and Antibodies
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Best Local Similarity 7
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-925-299-927
                                                US-10-346-802-4
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                                                                                                                                                                          PRIOR APPLICATION NUMBER: US/09/313,299B

PRIOR FILING DATE: 1999-05-17

PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PRIOR FILING DATE: EARLIER FILING DATE: 1996-08-30

PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PRIOR FILING DATE: EARLIER FILING DATE: 1995-09-08

NUMBER OF SEQ ID NOS: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOPTWARE: PatentIn version 3.0
SEQ ID NO 1
LENGTH: 121
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 9; Conserv
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LENGTH: 105
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                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 4, Application US/10346802 Publication No. US20030166873A1
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
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CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Kovesdi, Imre
APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Lee, James APPLICANT: Wood, Will
                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/10/346,802
CURRENT FILING DATE: 2003-01-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILE REFERENCE: 205654
                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: VEGF-RELATED PROTEIN FILE REFERENCE: P0963R1D1
                                                       NAME/KEY: Human
LOCATION: 1-147
OTHER INFORMATION: Sequence source:
                                                                                                                  FEATURE:
                                                                                                                              ORGANISM: Human
                                                                                                                                                   TYPE: PRT
                                                                                                                                                               ENGTH: 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         110 RARQEKCDKPRR 121
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75.0%;
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67.9%;
75.0%;

    Mismatches

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Pred. No. 1;
Score 53; DB 12;
Pred. No. 1.4;
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Pred. No. 1.
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                                                                  VEGE-121
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             Length 147;
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75.0%;

Pred. No. 1.4;

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; TYPE: PRT; ORGANISM: Homo sapien US-10-418-529-2
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; ORGANISM: Homo sapien
US-10-392-931-2
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                                                                                        PRIOR APPLICATION NUMBER: 09/392931
PRIOR FILING DATE: 1999-09-09
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH: 147
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   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sequence 2, App
Publication No.
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Best Local Similarity
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Publication No. US20030194643A1
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TITLE OF INVENTION: TREATMENT OF ECLAMPSIA AND PREECLAMPSIA
FILE REFERENCE: SCIOS.003C1
CURRENT APPLICATION NUMBER: US/10/418,529
CURRENT FILING DATE: 2003-04-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
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                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: 60/99694
PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/126615
PRIOR FILING DATE: 1999-03-27
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PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/126615
PRIOR FILING DATE: 1999-03-27
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APPLICANT: Johnson, Richard J.
APPLICANT: Scios, Inc.
APPLICANT: University of Washington
TITLE OF INVENTION: TREATMENT OF MICROVASCULAR ANGIOPATHIES
FILE REFERENCE: SCIOS.003A
                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
APPLICANT: Scios, Inc.
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CURRENT FILING DATE: 1999-09-09
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No. US20030220262A1
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67.9%; Score 53;
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Pred. No.
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 DB 12;
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Length 147;
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; LENGTH: 147
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-268-447-2
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US-10-268-447-2
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SEQ ID NO 1
LENCTH: 147
TYPE: PRT
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                                                                                                                      Query Match
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                                                                                 Matches
                                                                                                     Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                    APPLICANT: JUDITH A. ADFAHAM
TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR
TITLE OF INVENTION: VARIANTS
FILE REFERENCE: SCIOS.004DV1
CURRENT APPLICATION NUMBER: US/10/268,447
CURRENT FILING DATE: 2002-10-10
PRIOR APPLICATION NUMBER: 60/135,312
PRIOR FILING DATE: 1999-05-20
PRIOR FILING DATE: 1999-05-20
PRIOR FILING DATE: 1999-05-20
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PRIOR FILING DATE: 2000-05-18
NUMBER OF SEQ ID NOS: 11
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TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
FILE REFERENCE: SCIOS.002C1
CURRENT APPLICATION NUMBER: US/10/083,817
CURRENT FILING DATE: 2002-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: N. Stephen Pollitt APPLICANT: Judith A. Abraham
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PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 09/392,932
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Local Similarity 75.0%;
hes 9; Conservative
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136 RARQEKCDKPRR 147
                                         2 RTKPEKCDKPRR 13
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                                                                               Conservative
                                                                                                     67.9%;
75.0%;
                                                                               1; Mismatches
                                                                                                  Score 53; DB 15; Length 147; Pred. No. 1.4;
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Pred. No. 1.4;
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APPLICANT: Kovesdi, Imre
APPLICANT: Kessler, Paul
ITITLE OF INVENTION: VEGF FUSION PROTEINS
FILE REFERENCE: 205654
CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
SOFTWARE: PatentIn version 3.0
SEQ ID NO 79
SEQ ID NO 79
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US-09-832-355A-84
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                                               Sequence 97, Application US/09832355A Publication No. US20030027751A1 GENERAL INFORMATION:
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APPLICANT: Kovesdi, Imre
APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
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APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
FILE REFERENCE: 205654
                                                                                                                                                                                                                                                                                                            NAME/KEY: misc_feature
LOCATION: ()..()
OTHER INFORMATION: Synthetic
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NAME/KEY: misc feature
LOCATION: ()...()
OTHER INFORMATION: Synthetic
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ORGANISM: Artificial sequence
FEATURE:
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ORGANISM: Artificial sequence
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Pred. No. 2.1;
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FILE REFERENCE: 20554
CURRENT APPLICATION WEGF FUSION PROTEINS
CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
SOFTWARE: PatentIn version 3.0
SEQ ID NO 94
LENGTOUR.
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NAME/KEY: misc feature
LOCATION: ():()
OTHER INFORMATION: Synthetic
US-09-832-355A-94
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US-09-832-355A-104
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CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
SOFTWARE: Patentin version 3.0
SEQ ID NO 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 94, Application US/09832355A Publication No. US20030027751A1 GENERAL INFORMATION:
                                               SOFTWARE: PatentIn version 3.0 SEQ ID NO 104
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                                                                               APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
FILE REFERENCE: 205654
CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
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NAME/KEY: misc feature
LOCATION: ()...()
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TYPE: PRT
ORGANISM: Artificial sequence
ORGANISM: Artificial sequence
                 LENGTH: 367
TYPE: PRT
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RESULT 2
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A;Molecule type: mRNA
A;Residuse: 1-120 <TIS>
A;Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
C;Keywords: alternative splicing
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                                   δ
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A;Molecule type: mRNA
A;Residues: 1-146 <RED>
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A; Accession: S57956
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                                                                                                                                                                                                                                                                                                 C;Accession: S57956
R;Redmer, D.A.; Dai
                                                                                                                                                                                                                                                                                                                                    ovine vascular endothelial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon aries C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996
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A;Title: Vascular endothelial growth factor: a new member of the platelet-derived growth A;Reference number: A33787; MUID:90121225; PMID:2610687
A;Accession: A33787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          vascular endothelial growth factor (version 1) - bovine C;Species: Bos primigenius taurus (cattle) C;Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999 C;Accession: A33787
                                                                                                                                                         A;Cross-references: EMBL:X89506; NID:g899350; PIDN:CAA61677.1; PID:g899351
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CRPKKDKARQEKCDKPRR
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Pred. No. 0.62
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Pred. No. 0.72;
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#text_change 05-Nov-1999
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R;Galau, G.A.; Wang, H.Y.C.; Hughes, D.W. submitted to the EMBL Data Library, January 1992 A;Description: Cotton Mat5 (C164) gene and cDNAs
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C;Species: Gossypium hirsutum (upland cotton)
C;Date: 16-Uul-1999 #sequence_revision 16-Jul-1999 #text_change 16-Jul-1999
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A; Molecule type: DNA
A; Residues: 1-227 < KUR>
A; Cross-references: GB: BA000019; PIDN: BAB74242.1; PID: g17131635;
A; Cross-references: Strain PCC 7120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         hypothetical protein alr2543 [imported] - Nostoc sp. C;Species: Nostoc sp. PCC 7120
A;Note: Nostoc sp. strain PCC 7120 is a synonym of Ar. C;Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #t C;Accession: AH2123
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Goodner, B.; Hinkle, G.; Gattung, S.; Miller, N.; Blanchard, A.; Liu, F.; Wollam, C.; Allinger, M.; Doughty, D.; Scott, C. Science 294, 2323-2328, 2001
A;Cross-references: EMBL:M83301; NID:g167310; PID:g167311
                      A; Molecule type: mRNA
A; Residues: 1-139 < GAL>
                                                                                       A; Reference number: Z16886
A; Accession: T09850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Gene: alicana
C;Superfamily: Synechocystis hypothetical protein slr0748
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A;Accession: AH2123
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                                                              A;Status: preliminary; translated from GB/EMBL/DDBJ
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A; Residues: 1-72 < KUR>
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Pred. No.
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Pred. No.
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#text_change 09-Dec-2002
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C.; Lappas, C.; Markelz,
                                                                                                                               methionine-rich 2S
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A;Gene: QUTA
C;Superfamily: unassigned GAL4-type zinc cluster proteins;
C;Keywords: DNA binding; nucleus; transcription regulation
F;44-81/Domain: GAL4 zinc binuclear cluster homology <GAL4>
                                                                                                                                                                                                                                          R;Beri, R.K.; Whittington, H.; Roberts, C.F.; Hawkins, A.R. Nucleic Acids Res. 15, 7991-8001, 1987 Nucleic Bolation and characterization of the positively acting regulatory gene A;Title: Isolation and characterization of the positively acting regulatory gene A;Reference number: A26983; MUID:88040423; PMID:3313276 A;Accession: A26983
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F;1-20/Domain: signal sequence #status predicted <SIG>
F;21-139/Product: albumin 2S storage protein #status p
                                                                                                                                                                             A;Molecule type: DNA
A;Residues: 1-825 <BER>
A;Cross-references: GB:X06252; NID:g2396; PIDN:CAA29594.1;
                                                                                                                                                                                                                                                                                                                                                                C;Species: Emericella nidulans, Aspergi
C;Date: 31-Mar-1989 #sequence_revision
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F;1-20/Domain: signal sequence #status predicted <SIG>
F;21-139/Product: albumin 2S storage protein Mat5-A #status predicted <MAT>
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A;Description: Cotton Mat5-A (C164) gene and Mat5-D
A;Reference number: Z16893
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R;Galau, G.A.
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Pred. No. 28;
2; Mismatches
                   Score 41; DB 2;
Pred. No. 1.2e+02;
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bacteriophage T4 late gene expression-blocking protein - Escherichia coli (strain K-12 (Species: Escherichia coli (strain K-12 C;Date: 31-Mar-1990 #sequence revision 05-Dec-1997 #text_change 01-Mar-2002 C;Accession: H64858; A30386; Q00194 R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.; R98e, D.J.; Mau, B.; Shao, Y. A.; Rose, D.J.; Mau, B.; Shao, Y. Science 277, 1453-1462, 1997 Science 277, 1453-1462, 1997 Science number: A64720; MUID:97426617; PMID:9278503 A;Accession: H64858
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BVECLT
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                                     A;Molecule type: DNA
A;Residues: 1-297 <BLAT>
A;Cross-references: GB:AE000214; GB:U00096; NID:g1787382; PIDN:AAC74223.1; PID:g1787385;
A;Experimental source: strain K-12, substrain MG1655
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C;Species: Methanobacterium phage psiM2
C;Date: 13-Aug-1999 #sequence_revision 13-Aug-1999 #text_change 05-May-2000
C;Accession: T12727
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A;Residues: 1-1080 <ARN>
A;Cross-references: GB:AE001338; GB:AE001273; NID:g3329126; PIDN:AAC68277.1; PID:g332913
A;Experimental source: serotype D, strain UM-3/Cx
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A;Title: Genome sequence of an obligate intracellular pathogen of humans: Chlamydia tracellular pathogen of humans: Chlamydi
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C;Species: Chlamydia trachomatis
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;Status: translated from GB/EMBL/DDBJ
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Best Local
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Similarity 53.8%;
7; Conservation
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                                                                                                                                                                                                        acid sequence not shown;
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Pred. No. 1.5e
2; Mismatches
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1.5e+02;
2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               K-12)
hypothetical protein F1N13 30 - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 18-Aug-2000 #sequence_revision 18-Aug-2000 #t C;Accession: T51372 C;Accession: T51372 K;Sato, S.; Nakamura, Y.; Kaneko, T.; Kato. T.; Asami
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                                                                                                                                                                                                        T51372
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Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; D ansen, N.F.; Hughes, B.; Huizar, L.

Nature 408, 816-820, 2000

A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.
C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.;

Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.

A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.;

ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.

A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
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A;Title: The lit gene product which blocks bacteriophage T4 late gene expression is A;Reference number: A30386; MUID:88197991; PMID:2452152
A;Accession: A30386
A;Molecule type: DNA
A;Residues: 1-120,'QVANHGL',128,'NV',131,'SQKH',136-297 <KAO>
A;Cross-references: GB:M19634; NID:g146626; PIDN:AAAA24074.1; PID:g146627
A;Experimental source: strain JM101
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F;160,164/Binding site: zinc (His) #status predicted <TM1>
F;160,164/Binding site: zinc (His) #status predicted <TM2>
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                                                                                                                                                                                   A; Map position: 1
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                                                                                                                                                                                                                                                                            A; Residues: 1-403 <STO>
                                                                                                                                                                                                                                                                                               A;Status: preliminary A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                             A;Reference number: A86141; MUID:21016719; PMID:11130712
A;Accession: C96757
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Best Local
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102
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RWKPSSCDLPR 112
                                        RTKPEKCDKPR 12
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63.6%;
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Pred. No. 94;
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Pred. No. 73;
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                                                                                        Mismatches
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T.; Asamizu,

E.; Kotani, H.; Tabata,

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Ban

#text_change 18-Aug-2000

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gene NK10 protein - mouse
C;Species: Mus musculus (house mouse)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 01-Dec-2000
C;Accession: I48689; S49078
R;Lange, R.; Christoph, A.; Thiesen, H.J.; Vopper, G.; Johnson, K.R.; Lemaire, D, A. Cell Biol. 14, 971-981, 1995
B, Title: Developmentally regulated mouse gene NK10 eucodes a xZinc Finger Repre A;Reference number: I48689; MUID:96069544; PMID:7576184
A;Accession: I48689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein-tyrosine kinase (EC 2.7.1.112) src2 - fruit fly (Drosophila melanogaster)
C;Species: Drosophila melanogaster
C;Date: 31-Mar-1989 #sequence_revision 31-Mar-1989 #text_change 11-Jun-1999
C;Accession: A27807
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                      A;Status: preliminary; translated from GB/EMBL/DDBJA;Molecule type: mRNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R;Gregory, R.J.; Kammermeyer, K.L.; Vincent III, W.S.; Wadsworth, S.G. Mol. Cell. Biol. 7, 2119-2127, 1987
A;Title: Primary sequence and developmental expression of a novel Drosophila melanogasta A;Reference number: A27807; MUID:87257924; PMID:3110602
A;Accession: A27807
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  A;Residues:
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A; Introns: 277/3
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A; Residues: 1-526 <SAT>
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                                                                                                                                                                                                                                                                                                                   RESULT 14
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Matches
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;336-344/Region: protein kinase ATP-binding motif
;358/Active site: Lys #status predicted
;481/Binding site: phosphate (Tyr) (covalent) (by autophosphorylation) #status predict«
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cross-references: GB:M16599; NID:g158498; PIDN:AAA28912.1; PID:g158499; Note: the gene is designated as Dsrc28C
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;Residues: 1-590 <GRE>
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les 6; Conserv
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les 7; Conservative
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1-636 <RES>
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Pred. No. 1.3e+02;
1; Mismatches 4
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Search completed: January 30, Job time: 6.6 secs

2004, 11:46:14

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RESULT 15
B47447
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A;Title: Molecular diversity of Ca(2+) channel alpha 1 subunits from the marine A;Reference number: A47447; MUID:93248175; PMID:7683405
A;Accession: B47447
  닭
                                 5
                                                                                                                                                                                                                                                                                                                                                       C;Date: 21-Jan-1994 #sequence_revision 18-Nov-1994 #text_change C;Accession: B47447
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: EMBL:X79828; NID:g506501; PIDN:CAA56225.1; PID:g506502 C;Superfamily: zinc finger protein ZFP-36; LIM metal-binding repeat homology
                                                                                                                                                      C; Superfamily: voltage-dependent
                                                                                                                                                        A;Note: sequence extracted from NCBI backbone (NCBIP:130673)
C;Superfamily: voltage-dependent calcium channel protein alpha-1
                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 1-2326 < HOR>
                                                                                                                                                                                                                                 A; Status: preliminary; not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                  calcium channel protein alpha-1 chain (variant doe-4) - electric ray (Discopyge ommata)
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Matches 6
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838 QPESCEAPRR
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Result
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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Maximum DB seq length: 200000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score
       BLOSUM62
Gapop 10.0 , Gapext 0.5
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                                                                                                                                                                         GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
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GSHB_SCHPO
YE94 SCHPO
REP_BPHP1
IF2_YERPE
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RS6_XANAC
RS6_XANAC
RS6_XANC
R
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QUTA EMENI
RIMA ARATH
RIMA ARATH
LIT ECOLI
ZP90 MOUSE
BTKL DROME
FBN2 MOUSE
FBN2 HUMAN
VEGA CAVPO
VEGA BOVIN
VEGA HORSE
VEGA MESAU
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VEGA MOUSE
VEGA MOUSE
VEGA MOUSE
VEGA HUMAN
ENL HUMAN
CYPĪ YEAST
WW CANPA
PLL SHEEP
Z230 HUMAN
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YE94 SCHPO
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Q9uk11
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Q9myv3
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6 homo sapien
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escherichia
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45	44	43	42	41	40	39	38	37	36	35	34
37	37	37	37	37	37	37	37	37	37	37	37
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		Q9qz81 rattus norv			P35995 saccharomyc	Q22836 caenorhabdi	013157 gallus gall	P19262 saccharomyc	P38141 saccharomyc	P25987 turkey herp	Q8kcg8 chlorobium

ALIGNMENTS

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SIGNAL 1 26 CHAIN 27 146 DISULFID 51 93		PROSITI		Pfam; PF00341; PDGF; 1.	HSSP; P15692; 1VPP.		or send an email to licenseemsb-sib.ch).	entities requires a license agreement (See http://www.ir	•use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and for commerce		This SWISS-PROT entry is copyright. It is produced throug	-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.	with PIGF (By similarity).	:	VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to		endothelial cell growth. It induces endothelial cell	:	J. Reprod. Fertil. 108:157-165(1996).		Reynolds L.P., Moor R.M.;	Redmer D.A., Dai \					Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pec	Eukaryota; Metazoa;	VEGF OR, VE	permeability factor) (VPF).	28-FEB-2003 (Rel. 41, Last annotation	01-OCT-1996 (Rel. 34, Last	P50412;	_B 5	
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RESULT 2
QUTA_EMENI
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DISULFID
DISULFID
                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIINE=88040423; PubMed=3313276;
Beri R.K., Whittington H., Roberts C.F., Hawkins A.R.;
Beri R.K., whittington H., Roberts C.F., Hawkins A.R.;
"Isolation and characterization of the positively acting regulat gene QUTA from Aspergillus nidulans.";
gene QUTA from Aspergillus nidulans.";
Nucleic Acids Res. 15:7991-8001(1987).
-!- FUNCTION: TRANSCRIFTION ACTIVATION OF GENES FOR ENZYMES AND PROTEINS OF QUINATE METABOLISM BY BINDING TO A 16 BASE-PAIR SEQUENCE (CONSENSUS GGATAANNNNTTATCC) IN FRONT OF EACH QUT GENERAL CONSENSUS GGATAANNNNTTATCC) IN FRONT OF EACH QUT GENERAL CONSENSUS GGATAANNNNTTATCC)
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P10563;
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                                                                                                               PROSITE; PS00463; ZN2_CY6_FUNGAL_1; 1.

PROSITE; PS50048; ZN2_CY6_FUNGAL_2; 1.

Transcription regulation; Activation; DNA-binding; Nuclear Zinc; Metal-binding; Quinate metabolism.

DNA_BIND 49 76 ZN(2)-CYS(6); FUNGAL_TYPE.

DNA_BIND 49 76 ZN(2)-CYS(6); FUNGAL_TYPE.
                                                                                                                                                                                      TRANSFAC; T02849; -.
InterPro; IRR0011138; Fungi TrN.
Pfam; PF04082; Fungal trans; 1.
Pfam; PF00172; Zn clus; 1.
SMART; SM00066; GĀL4; 1.
                                                                                                                                                                                                                                                        PIR; A26983; A26983.
HSSP; P07272; 1PYI.
                                                                                                                                                                                                                                                                                                           entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eurotiales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Emericella nidulans (Aspergillus nidulans).
Eukaryota; Fungi, Ascomycota; Pezizomycotina; Eurotiomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Quinic acid
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01-JUL-1989
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
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                                                    Similarity 6; Conserv
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                                                                                                        825 AA;
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86
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146 AA;
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(Rel. 11, Last sequence up
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utilization activator.
                                                     Conservative
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                                                                 Score 41;
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BY SIMILARITY.
INTERCHAIN (BY SIMILARITY)
INTERCIAIN (BY SIMILARITY)
N-LINKED (GLCNAC. . .) (PO
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Pred. No. 0
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                                                                   39,
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RESULT 3
RIN4_ARATH
   Cell 112:379-389(2003).

Cell 112:379-389(2003).

-i- FUNCTION: Essential regulator of plant defense, which plays a central role in resistance in case of infection by a pathogen. It is a common target for both type III avirulence proteins from Pseudomonas syringae (AvrB, AvrRpm1 and AvrRpt2) and for the plant Resistance (R) proteins RPM1 and RPS2. In strains carrying the appropriate R gene for avirulence proteins of the pathogen, its association with avirulence proteins triggers a defense system including the hypersensitive response, which limits the spread of disease. In contrast, in plants lacking appropriate R genes, its association with avirulence proteins of the pathogen impairs the defense system and leads to the pathogen multiplication.

-I- SUBUNIT: Interacts with the unrelated avirulence proteins AvrB, AvrRpm1 and AvrRpt2 from Pseudomonas syringae. Interacts with the association with AvrB and AvrRpm1 results in its phosphorylation, which is in turn recognized by the resistance RPM1 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RIN4 OR AISGZDOVY ON TOTAL RING OF AISGZDOVY ON 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Axtell M.J., Staskawicz B.J.; "Initiation of RPS2-specified disease resistance in coupled to the AvrRpt2-directed elimination of RIN4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sato S., Nakamura Y., Kaneko T., Katoh T., Asamizu E., Tabata S "Structural analysis of Arabidopsis thaliana chromosome 3. I. Suffeatures of the regions of 4,504,864 bp covered by sixty P1 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-SEP-2003 (Rel. 42, Created)
15-SEP-2003 (Rel. 42, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=22469032; PubMed=12581527;
Mackey D., Belkhadir Y., Alonso J.M., Ecker J.R., Dangl
Mackey D., Belkhadir Y., Alonso f.M., Ecker J.R., Dangl
"Arabidopsis RIN4 is a target of the type III virulence
"AvarRpt2 and modulates RPS2-mediated resistance.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FUNCTION, AND INTERACTION WITH AVERPT2. MEDLINE=22469032; PubMed=12581527;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Shinozaki K., Davis R.W., Ecker J.R., Theol "RIKEN Arabidopsis full length cDNA clones SSP consortium (Salk/Stanford/PGEC).";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN=cv. Co
Shinozaki K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA Res.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=21952473; PubMed=11955429;
Mackey D., Holt B.F. III, Wilg A., Dangl J.L.;
"RIM4 interacts with Pseudomonas syringae type III effector molecules
and is required for RPM1-mediated resistance in Arabidopsis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=cv. Columbia;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RPM1-interacting protein 4. RIN4 OR AT3G25070 OR MJL12_1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Columbia;
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   other hand,
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lones (RAFLs)
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i. Sequence
and TAC
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RESULT 4
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Best Local S
Matches 8
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01-JUL-1989 (Rel. 11, Created)
01-NOV-1997 (Rel. 35, Last sequence up
16-OCT-2001 (Rel. 40, Last annotation
Bacteriophage T4 late gene expression
LIT OR B1139.
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Plant
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"The lit gene product which blocks bacteriophage T4 late gene
expression is a membrane protein encoded by a cryptic DNA element,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
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MEDLINE=97061202; PubMed=8905232;
Oshima T., Aiba H., Baba T., Fujita K., Hayashi K., Honjo A.,
Oshima T., Aiba H., Baba T., Kajihara M., Kanai K., Kashimoto K.,
Ikemoto K., Inada T., Itoh T., Kajihara M., Kanai K., Kashimoto K.,
Kimura S., Kitagawa M., Makino K., Masuda S., Miki T., Mizobuchi K.,
Mori H., Motomura K., Nakamura Y., Nashimoto H., Nishio Y., Saito N.,
Sampei G., Seki Y., Tagami H., Takemoto K., Wada C., Yamamoto Y.,
Yano M., Horiuchi T.;
                                                                                                                                                                                                                                                        MEDLINE-97426617; PubMed-9278503;
Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burlar Blattner F.R., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G. Riley M., Collado-Vides J., Glasner J.D., Goeden M.A., Rose D. Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D. C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteria; Proteobacteria;
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                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                    Science
                                                                                                                                                                                                                                         Mau B.,
                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=88197991; PubMed=2452152;
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SUBCELLULAR LOCATION: Cytoplasmic;
PTM: Phosphorylated following the:
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                                                                                                                                                                                                    complete genome sequence nce 277:1453-1474(1997).
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AK117488; BAC42151.1; -.
defense; Membrane; Phosphoryla
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                                                                                                                                                                                                                                         Shao Y.;
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                                                                                                                                                                                                                                                                                                                                          MG1655;
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AA; 23371 MW; AB391ECF840AEA09 CRC64;
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Pred. No.
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blocking
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RESULT 5
ZF90_MOUSE
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between
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DNA RRS. 3:137-155(1996).
-I- FUNCTION: INTERACTS WITH A SHORT DNA SEQUENCE ABOUT ONE-QUARTER OF THE WAY INTO THE MAJOR CAPSID PROTEIN GENE 23 OF T4, AND THE INHIBITION OCCURS WHEN THIS LATE GENE OF THE VIRUS IS EXPRESSED.
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Mammalia; Eutheria;
NCBI_TaxID=10090;
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15-SEP-2003
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EMBL; AE000214; AAC74223.1; -.
EMBL; D90748; BAAA5959.1; -.
EMBL; D90749; BAA35968.1; -.
                                                                                                                                                                                                                                                                                                                                                          STRAIN=C57BL/6; TISSUE=Brain; MEDLINE=96069544; PubMed=7576184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Zinc finger
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EcoGene; EG10535;
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35, Last sequence up
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135
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Rodentia;
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(Zfp-90) (Zinc finger protein NK10).
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POTENTIAL.
TGCESWPKKCPKPEA -> QVANHGLKNVPSQKH
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Sciurognathi;
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thi; Muridae; Murinae; Mus
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RESULT 6
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InterPro; IPR007087; Znf_C2H2.
InterPro; IPR007086; Znf_C2H2_sub.
InterPro; IPR007086; Znf_C2H2_sub.
Pfam; PP001352; KRAB; 1.
Pfam; PF000096; zf-C2H2; 13.
PRINTS; PR000048; ZINCFINGER.
ProDom; PD000003; Znf_C2H2; 7.
SMART; SM00349; KRAB; 1.
SMART; SM00349; KRAB; 1.
SMART; SM00355; ZnF_C2H2; 13.
PROSITE; PS500028; ZINC_FINGER_C2H2_1; 13.
PROSITE; PS500157; ZINC_FINGER_C2H2_2; 13.
SEQUENCE FROM N.A. (ISOFORM 1/. SEQUENCE FROM N.A. (ISOFORM 1/. SEQUENCE FROM N.A. (ISOFORM 1/. )
MEDLINE=87257924; PubMed=3110602;
Gregory R.J., Kammermeyer K.L., Vincent W.S. II.
Gregory R.J., Kammermeyer K.L., Vincent W.S. II.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
ZN FING
                                                                                                                                                                                                                  BTKL DROME STANDARD; PRT; 786 AA. P08630; O45032; O76132; O76133; P11361; Q8T0A0; P1-AUG-1988 (Rel. 08, Created) 28-FEB-2003 (Rel. 41, Last sequence update) 15-SEP-2003 (Rel. 42, Last annotation update) Tyrosine-protein kinase Btk29A (EC 2.7.1.112) (I BTK29A OR SRC29A OR SRC2 OR TBC29 OR CG8049.
                                                                                                                                                                                                                                                                                                                                                                 DROME
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                                                                                                                                      Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Haraboda; Insecta;
Neoptera; Endopterygota; Diptera; Brachycera; Muscc
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zinc-finger; Metal-binding; DNA-binding; Nuclear protein; Repeat;
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                  III, Wadsworth S.G.;
on of a novel Drosophila
                                                                                                                                                           ecta; Pterygota;
Muscomorpha;
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                     RA Ballew R.M., Basu A., M., Barendale J., Bayraktaroglu L., Beasley E.M.,
RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Gherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Posler C., Gabrielian A.E., Garg N.S., Galbart W.M., Glasser K.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Harris N.L., Houston K.A., Howland T.J., Wei M.-H., Ibegwam C.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Melson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Nelson D.R., Nelson K.A., Sampson M., Skupski M.P., Shen H.,
RA Rinert K., Remington K., Samders R.D.C., Scheeler F., Shen H.,
RA Shive B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
RA Shier E., Spradling A.C., Stapleton M., Skupski M.P., Smith T.,
RA Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA Yelson X.H., Zhong W., Zhou X., Zhou S., Zhao Q., Zheng L.,
The genome sequence of Drosophila melanogaster.";
The genome sequence of Drosophila melanogaster.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 George R.A., Lewis S.B., Richard M.D., Zhang Q., Chen L.X., Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X., Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D., Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G., Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G., Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G., Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baddwin D., Abril J.F., Agbayani A., An H.-J., Bayraktaroglu L., Beasley E.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=20196006; PubMed=10731132;
Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
                                                                 SEQUENCE FROM N.A. (ISUE-Embryo;
TISSUE-Embryo;
TISSUE-Embryo;
                                                                                                                                                                                                                    Misra S., Crosby M.A., Mungall C.J., Matthews B.B., Campbell K.S., Hradecky P., Huang Y., Kaminker J.S., Millburn G.H., Prochnik S.E. Smith C.D., Tupy J.L., Whitfield E.J., Bayraktaroglu L., Berman B. Bettencourt B.R., Celniker S.E., de Grey A.D.N.J., Drysdale R.A., Harris N.L., Richter J., Russo S., Schroeder A.J., Shu S.Q., Stapleton M., Yamada C., Ashburner M., Gelbart W.M., Rubin G.M.,
                                        MEDLINE=22426066; PubMed=12537569;
Stapleton M., Carlson J.W., Brokst
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "The Drosophila Bruton's tyrosine kinase (Btk) homolog is required adult survival and male genital formation."; Mol. Cell. Biol. 19:4405-4413(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=Canton-S, and Oregon-R; TISSUE=Head; MEDLINE=99263011; PubMed=10330180;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      melanogaster src
Mol. Cell. Biol.
                                                                                                                                                                                  "Annotation of the
                                                                                                                                                                                                   Lewis S.E
                                                                                                                                                                                                                                                                                                                                                MEDLINE=22426069;
                                                                                                                                                                                                                                                                                                                                                                     STRAIN=Berkeley;
                                                                                                                                                                                                                                                                                                                                                                                      REVISIONS, AND ALTERNATIVE SPLICING.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Yamamoto
                                                                                                                                          Biol.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Takeshita A., Majima
                                                                                                                                                                review
                                                                                                                                          3:RESEARCH0083.1-RESEARCH0083.22(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gene.";
7:2119-2127(1987).
                                                                                                                                                                                                                                                                                                                                                  PubMed=12537572;
                                                                                                                                                                                Drosophila melanogaster euchromatic genome: a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AND ALTERNATIVE SPLICING
                     .W., Brokstein
Kronmiller B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     K., Ueda
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                     Pacleb J.M.,
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Champe M., M., Park S.,

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unpublished observations (JUL-1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Drosophila oogenesis.";
Development 125:2883-2892(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nucleic Acids
[8]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-85215606; PubMed-3923437; Wadsworth S.C., Madhavan K., Bilodeau-Wentworth "Maternal inheritance of transcripts from three
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Guarnieri D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 199-789 FROM N.A. TISSUE=Eye-antennal disk;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rubin G.M., Celniker S.E.;
"A Drosophila full-length cDNA resource.";
Genome Biol. 3:RESEARCH0080.1-RESEARCH0080.8(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY WITH BTK SUBFAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Src64 is required for ovarian ring
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=98322240; PubMed=9655810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 552-684 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=98325396; PubMed=9660966;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "SRC64 regulates the localization of a Tec-family kinase required
        L; M16599; AAA28912.1; ALT_FRAME.
L; AB009840; BAA24063.1; -.
L; AB009841; BAA24064.1; -.
L; AE003620; AAF52631.3; -.
L; AE003620; AAF52632.2; -.
L; AY069457; AAL39602.1; -.
L; AY128441; AAM75034.1; -.
L; AY12841; AAM75034.1; -.
L; AY12841; AAM99888.1; -.
L; X02305; CAA26170.1; -.
                                                                                                                                                                                                                                                                 SIMILARITY: Contains 1 PH domain.
SIMILARITY: Contains 1 SH2 domain.
SIMILARITY: Contains 1 SH3 domain.
CAUTION: Ref.1 sequence differs from that shown due to frameshifts in positions in the N-terminal sequence of isoform 1 and in positions 222-245.
                                                                                                                                                                                                                                                                                                                                                                                                                        IsoId=P08630-2; Sequence=VSP_004964, TISSUE SPECIFICITY: Ring canals in the disks of third-instar larvae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Drosophila ring canal growth."; Cell 1:831-840(1998).
                                                                                                                                                                                                                                                                                                                                                                                                DEVELOPMENTAL STAGE: Expressed both maternally and zygotically Predominantly in early to middle embryogenesis, in larvae and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBCELLULAR LOCATION: Ring canals. ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CATALYTIC ACTIVITY: ATP + a protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FUNCTION: Required for proper ring canal development. Also required for the development of male genitalia and for adu
                                                                                                                                                                                                                                                                                                                                                          SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tyrosine phosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Event=Alternative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IsoId=P08630-1; Sequence=Displayed;
                                                                                                                                                   non-profit institutions as long
and this statement is not removed,
requires a license agreement (See
an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AND
                                                                                                                                                                                                                                                                                                                                                                                      females.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    J., Dodson G.S., Simon M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE SPECIFICITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Res. 13:2153-2170(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                splicing; Named isoforms=2;
                                                                                                                                                                                                                                                                                                                                                                       TO THE TYR FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Simon M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (ISOFORM 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    canal morphogenesis
                                                                                                                                                                 (See http://www.isb-sib.ch/announce,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tyrosine
                                                                                                                                                                                              as
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                                                                                                                                                                                                                                                                                                                                                                                                                                          egg chambers and imaginal
                                                                                                                                                                                                                                                                                                                                                                                                                                                       VSP_004965;
                                                                                                                                                                             Usage
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                                                                                                                                                                                              are no restrictions its content is in
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Drosophila src-related
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RESULT 7
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Best Local S
Matches 6
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R FlyBase; FBgn0003502; Btk29A.

R GO; GO:0005737; C:cytoplasm; IDA.

R GO; GO:0005866; C:plasma membrane; IDA.

R GO; GO:0005866; C:plasma membrane; IDA.

R GO; GO:00045172; C:ring canal (sensu Drosophila); IEP.

R GO; GO:0004713; F:protein tyrosine kinase activity; ISS.

R GO; GO:0007620; P:copulation; NAS.

R GO; GO:0007619; P:courtship behavior; NAS.

R GO; GO:0007619; P:courtship behavior; NAS.

R GO; GO:0008340; P:determination of adult life span; IMP.

R GO; GO:0008258; P:mead involution; IMP.

R GO; GO:0007405; P:male genital morphogenesis (sensu Holometab. ...

R GO; GO:0007301; P:ring canal formation; IEP.

R GO; GO:0007301; P:ring canal formation; IEP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProDom; PD000000; ....
SMART; SM00233; PH; 1.
SMART; SM00220; STKG; 1.
SMART; SM00252; SH2; 1.
SMART; SM00252; SH3; 1.
SMART; SM00219; TyrKG; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS50003; I
PROSITE; PS00107; I
PROSITE; PS00109; I
PROSITE; PS50011; I
                                                                                                                                                                                                                                                                                           P56698;
15-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRINTS;
PRINTS;
ProDom;
ProDom;
                                                                                                                                                                            Discopyge ommata (Electric ray).
Eukaryota; Metazoa; Chordata; Verniata; Vertebrata; Chondricht
Elasmobranchii, Squalea; Hypnosqualea; Pristiorajea; Batoidea;
Torpediniformes; Narcinoidei; Narcinidae; Discopyge.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF00069; pkinase; 1.
Pfam; PF00017; SH2; 1.
Pfam; PF00018; SH3; 1.
           Horne W.A., Ellinor P.T., Inman I., Zhou M., Tsien R.W., "Molecular diversity of Ca2+ channel alpha 1 subunits fro ray Discopyge ommata.";
Proc. Natl. Acad. Sci. U.S.A. 90:3787-3791(1993).
-I- FUNCTION: THE ISOFORM ALPHA-1B GIVES RISE TO N-TYPE CURRENTS. N-TYPE CALCIUM CHANNELS BELONG TO THE "HIGH ACTIVATED" (HVA) GROUP (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000980;
InterPro; IPR001452;
InterPro; IPR001245;
                                                                                                                                                                                                                                                  Probable voltage-dependent
                                                                                                                                                                                                                                                                 15-JUL-1999
28-FEB-2003
                                                                                                                                                                                                                                                                                                                          CCAB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR002290; Ser_thr_pkinase.
                                                                                                            MEDLINE=93248175; PubMed=7683405;
                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR000719; Prot kinase.
                                                                                                                                                                                                                                       (DOE-4).
                                                                                                                       (SSUE=Electric lobe;
                                                                                                                                                                                                                                                                                                                         DISOM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3; PR00401; SH2DOMAIN.
3; PR00109; TYTKINASE.
n; PD000001; Prot kinase; 1
n; PD000093; SH2; 1.
n; PD000066; SH3; 1.
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9 (Rel. 38,
3 (Rel. 41,
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; PH_DOMAIN; 1.
; PROTEIN_KINASE_ATP;
; PROTEIN_KINASE_TYR;
; PROTEIN_KINASE_DOM;
                                                                                                                                      (ISOFORMS 1 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SH2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 54.5%;
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                                                                                                                                                                                                                                                               Last sequence update)
                                                                                                                                                                                                                                                                                              Created)
                                                                                                                                                                                                                                              annotation update)
N-type calcium cha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 40; DB
Pred. No. 54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                      GIVES RISE TO N-TYPE CALCIUM
                                                                                                                                     2).
                                                                                                                                                                                                                                                                                                                         ₹
                                                                                                                                                                                                                                                    channel alpha-1B subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 786;
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                                                                                                                                                                                                           Chondrichthyes;
                          "HIGH-VOLTAGE
                                                                              from the marine
                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
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SUBUNIT: VOLTAGE-DEPENDENT CALCIUM CHANNELS ARE

MULTISUBUNIT

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InterPro; IPR001682; Ca/Na_pore.
InterPro; IPR002077; Ca_channel.
InterPro; IPR002111; Cat_channel_TrpL.
InterPro; IPR005821; Ion_trans.
InterPro; IPR005821; Ion_trans.
InterPro; IPR005820; M+channel_nlg.
InterPro; IPR005447; NVDCCAlphal.
InterPro; IPR005447; NVDCCAlphal.
InterPro; IPR0059315; PKD_2.
Pfam; PF00520; ion_trans; 4.
       TRANSMEM
DOMAIN
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TRANSMEM
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DOMAIN
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REPEAT
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Calcium Channel; Glycoprotein; Repeat; Multigene family;
Calcium-binding; Phosphorylation; Alternative splicing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam, PF00520; ion trans; 4.
PRINTS; PR00167; CACHANNEL.
PRINTS; PR01631; NVDCCALPHA1.
PRINTS; PR01433; POLYCYSTIN2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; L12532; -; NOT
PIR; B47447; B47447.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN: EACH OF THE FOUR INTERNAL REPEATS CONTAINS FIVE HYDROPHOBIC TRANSMEMBRANE SEGMENTS ($1, $2, $3, $5, $6) AND ONE POSITIVELY CHARGED TRANSMEMBRANE SEGMENT ($4). $4 SEGMENTS POSITIVELY CHARGED THE VOLTAGE-SENSOR AND ARE CHARACTERIZED BY A SERIES OF POSITIVELY CHARGED AMINO ACIDS AT EVERY THIRD POSITION. STRING PHOSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPP TOWN THE PROSPHORYLATED IN VITRO BY CAM-KINASE III, CAPK, PKC AND CAPK THE PROSPHORYLATED TOWN THE PROSPHORYLATE
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IN THE FOREBRAIN.
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SSUE SPECIFICITY: EXPRESSION IS HIGHER IN THE ELECTRIC LOBE THAN
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1416
1708
88
       S5 OF REPEAT I (POTENTIAL).

EXTRACELLULAR (POTENTIAL).

S6 OF REPEAT I (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

S1 OF REPEAT II (POTENTIAL).

EXTRACELLULAR (POTENTIAL).

EXTRACELLULAR (POTENTIAL).

S2 OF REPEAT II (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                   S3 OF REPEAT I (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
S4 OF REPEAT I (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                           S1 OF REPEAT I (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
S2 OF REPEAT I (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
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RESULT 8 FBN2_MOUSE ID FBN2_MOUSE AC Q61555; Q6395 DT 15-DEC-1998 (DT 15-DEC-1998 (DT 28-FEB-2003 (DE Fibrillin 2 F GN FBN2 OR FBN-2 OR FBN-2 OR FBN-2 OR FBN-2 OR FBN-2 OC EUkaryota; Med COC Mammalia; Eut	4 838	Query Match Best Local S Matches 6		CARBOHYD			SITE	SITE	SITE	DOMAIN			DOMAIN					TRANSMEM			DOMAIN			TRANSMEM		TRANSMEM		TRANSMEM		TRANSMEM	
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PRT; 2907 AA. ted) sequence update) annotation update) ta; Craniata; Vertebrata; Euteleostomi; ia; Sciurognathi; Muridae; Murinae; Mus.		Score 40; DB 1; Length 2326; Pred. No. 1.6e+02; 2; Mismatches 2; Indels 0; Gaps	2). /FTId=VSP_000884. MW; D58DEAA09E819B6B CRC64;	N-LINKED (GLCNAC) (POTENTIAL). D -> DDGLGIIYEPEQKPEDIQSVY (in isoform	ВУ	IVITY A	CALCIUM ION SELECTIVITY AND PERMEABILITY (BY SIMILARITY)	(BY SIMILARITY) CALCIUM ION SELECTIVITY AND PERMEABILITY (BY SIMILARITY)	(BY SIMILWRILL). CALCIUM INSTRUC	BINDING TO THE BETA SUBUNIT	POLY-GLN.	JIC (SK OF REPEAT IV (POTENTIAL).	SS OF REPEAT IV (POTENTIAL).	S4 OF REPEAT IV (POTENTIAL).	EXTRACELLULAR (POTENTIAL)	CYTOPLASMIC (POTENTIAL).	S2 OF REPEAT IV (POTENTIAL).	S1 OF REPEAT IV (POTENTIAL).	S6 OF REPEAT III (POTENTIAL). CYTOPLASMIC (POTENTIAL)	SS OF REPEAT III (POTENTIAL). EXTRACELLULAR (POTENTIAL).	CYTOPLASMIC (POTENTIAL).	EXTRACELLULAR (POTENTIAL).	S3 OF REPEAT III (POTENTIAL).	S2 OF REPEAT III (POTENTIAL).	SI OF REPEAT III (POTENTIAL). EXTRACELLULAR (POTENTIAL).	CYTOPLASMIC (POTENTIAL).	S6 OF REPEAT II (POTENTIAL).	S5 OF REPEAT II (POTENTIAL).	SA OF REPEAT II (POTENTIAL). CYTODIASMIC (POTENTIAL).	מעשטא אפריות אם ומאשתאדאוו

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Pfam; PPOUUUU,
Pfam; PPO0683; TB; 9.

R PRINTS; PRO0010; EGFBLOOD.

R SMART; SM00179; EGF CA; 43.

PROSITE; PS00010; ASX HYDROXYL; 43.

PROSITE; PS001186; EGF 1; 2.

DR PROSITE; PS01186; EGF 2; 36.

DR PROSITE; PS01187; EGF CA; 43.

PROSITE; PS01187; EGF CA; 43.

POTPACCELULAR matrix; Calcium-binding; Gl.

POTENTIAL.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=94140368; PubMed=8307578;
Li X., Pereira L., Zhang H., Sanguineti
Francke U.;
"Fibrillin genes map to voor-
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Genomics
-!- FUNCT
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"Developmental expression of fibrillin
of extracellular microfibrils.";
J. Cell Biol. 129:1165-1176(1995).
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EMBL; E59359; AAC66685.1; -.
PIR; A57278, A57278.

HSSP; P35555; 1EMN.
MGD; MGI:95490; Fbn2.
GO; GO:0030326; P:limb morphogenesis; IMP.
InterPro; IPR001851; Asx hydroxyl.
InterPro; IPR001881; EGF Ca.
InterPro; IPR001881; EGF II.
InterPro; IPR001813; EGF II.
InterPro; IPR001831; EGF II.
InterPro; IPR001831; EGF II.
InterPro; IPR002212; Fibril-assoc.
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[1]
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se chromosomes 2 and 18.";
omics 18.66-672(1993).
FUNCTION: STRUCTURAL COMPONENT OF CONNECTIVE TISSUE MICROFIBRILS FUNCTION: FIBRILIN-1-CONTAINING MICROFIBRILS PROVIDE LONG-TERM FORCE BEARING STRUCTURAL SUPPORT.
SIMILARITY: Contains 47 EGF-like domains.
SIMILARITY: Contains 7 TGF-beta binding protein (TGFBP) domains.
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 POTENTIAL.

FIBRILLIN 1

EGF-LIKE 1

EGF-LIKE 2

EGF-LIKE 3

EGF-LIKE 5

TGFBP 1.

EGF-LIKE 6

EGF-LIKE 6

EGF-LIKE 7

EGF-LIKE 9

EGF-LIKE 1

EGF-LIKE 1

EGF-LIKE 1

EGF-LIKE 3

EGF-LIKE 1

EGF-LIKE 1

EGF-LIKE 3

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EGF-LIKE 5
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16,
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Mattei M.-G.,

Sarfarazi

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RESULT 9
FBN2_HUMAN
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P35556;
01-JUN-1994
01-FEB-1996
28-FEB-2003
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 SEQUENCE FROM N.A.
MEDLINE=94155150; PubMed=8120105;
Zhang H., Apfelroth S.D., Hu W., Davis E.
Bonadio J., Mecham R.P., Ramirez F.;
"Structure and expression of fibrillin-2,
                                                                                                                                     Homo sapiens (Human)
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                               NCBI_TaxID=9606;
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precursor.
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. 33, Last sequence. 41, Last annotation.
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InterPro; IPR001881; EGF Ca.
InterPro; IPR001438; EGF II.
InterPro; IPR006209; EGF_like.
InterPro; IPR002212; Fibril-assoc.
Pfam; PF00008; EGF; 45.
Pfam; PF000683; TB; 9.
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EMBL; X62009; -, NOT ANNOTATED_CDS
EMBL; X65105; AS4105.
HSSP; P35555; LEMN.
Genew; HGNC:3604; FBN2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=98407789; PubMed=9737771;
Babcock D., Gasner C., Francke U., Maslen
"A single mutation that results in an asp-
partial exon skipping in a family with cor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     component preferentially located J. Cell Biol. 124:855-863(1994).
PRINTS; PR00010; EGFBLOOD.
SMART; SM00179; EGF_CA; 43.
PROSITE; PS00010; ASX_HYDROXYL;
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MEDLINE=96083599; PubMed=7493032;
Putnam E.A., Zhang H., Ramirez F., Milewicz
"Fibrillin-2 (FBN2) mutations result in the
congenital contractural arachnodactyly.";
Nat. Genet. 11:456-458(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 752-1
MEDLINE=91304567;
                                                                                                                                                                                             MIM; 121050; -...GO:0005578; C:extracellular matrix; TAS.GO:0005578; C:extracellular matrix structural constituent; GO; GO:0005201; F:extracellular matrix structural constituent; GO; GO:0007345; P:embryogenesis and morphogenesis; TAS.GO; GO:0007397; P:histogenesis and organogenesis; TAS.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            arachnodactyly.";
Am. J. Med. Genet.
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MEDLINE=20259236; PubMed=10797416;
Belen S., Zhou G., Wang M., Der Ka
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   partial exon skipping
arachnodactyly.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tsipouras P., Ramirez F., Hollis "Linkage of Marfan syndrome and two different fibrillin genes.", Nature 352:330-334(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE OF 752-1505 FROM N.A.
MEDLINE=91304567; PubMed=1852206;
Lee B., Godfrey M., Vitale E., Hori H.,
Tsipouras P., Ramirez F., Hollister D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Godfrey M
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DISEASE: DEFECTS IN FBN2 ARE THE CAUSE OF CONGENITAL CONTRACTURAL ARACINODACTYLY (CCA) (ALSO KNOWN AS BEALS SYNDROWE). CCA IS PHENOTYPICALLY SIMILAR TO MARFAN SYNDROME, BUT DOES NOT EFFECT THE AORTA AND THE EYES.

SIMILARITY: Contains 47 EGF-like domains.

SIMILARITY: Contains 7 TGF-beta binding protein (TGFBP) domains.

DATABASE: NAME-Elastic Fiber Homepage; NOTE-Fibrillin 2 page; WWW-"http://ef.wustl.edu/genes/FBN2.htm".
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rey M.;
novel fibrillin-2 mutations
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PROSITE; PRONOUZ; EGF_1
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PROMAIN 1072 1113
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PROMAIN 1157 1164
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PROMAIN 2293 22
16; EGF_2; 37.

16; EGF_2; 37.

17; EGF_CA; 42.

28

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1176

EGF_CA; 42.

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EGF_LIKE 1.

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EGF_LIKE 2.

207

EGF_LIKE 3.

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207

EGF_LIKE 3.

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EGF_LIKE 4. (...)

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EGF_LIKE 1. (...)

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TGFBP 2.

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EGF_LIKE 1. (...)

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EGF_LIKE 1. (...)

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EGF_LIKE 1. (...)

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EGF_LIKE 1. (...)

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Pred. No. 2e+0
1; Mismatches
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Hystricognathi; Caviidae; Cavia.
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RESULT 11
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PROSITE;
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01-APR-1990 (Rel. 14, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPP).
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MEDLINE=89286596; PubMed=2735925;
Ferrara N., Henzel W.J.;
"Pituitary follicular cells secrete a novel heparin-binding factor specific for vascular endothelial cells.";
                                                                                                                                        Tischer E., Gospodarowicz D., Mitchell R., Silva M., Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
"Vascular endothelial growth factor: a new member of derived growth factor gene family.";
                                                                                                                                                                                                                              SEQUENCE OF 27-190 FROM N.A. (ISOFORMS ALPHA AND MEDLINE=90121225; PubMed=2610687;
                                                                                                                                                                                                                                                                                                                mitogen.
                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A., AND SEQUENCE OF 27-47, MEDLINE=90069608; PubMed=2479988; Leung D.W., Cachianes G., Kuang W.-J., Goe "Vascular endothelial growth factor is a s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
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01-APR-1990
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Pfam; PF00341; PDGF; 1.
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                                                                                      SEQUENCE OF 27-31.
                                                                                                                                                                                                                                                                                         Science 246:1306-1309(1989).
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SM00141; PDGF; 1.
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1; Anglogenesis; Growth f
10 25 67 BY
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28-FEB-2003 (Rel. 41, 28-FEB-2003 (Rel. 41, 28-FEB-2003 (Rel. 41, Vascular endothelial

41, Created)
41, Last sequence update)
41, Last annotation update)

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factor)

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RESULT 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS00249; PDGF
PROSITE; PS50278; PDGF
Mitogen; Angiogenesis;
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EMBL; M31836; AAA30804.1; -.
EMBL; M33750; AAA30805.1; -.
PIR; B40080; B40080.
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Pfam; PF00341; PDGF;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                with PlGF (By similarity).
SUBCELLULAR LOCATION: Secreted but
to the extracellular matrix unless
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SUBUNIT: Homodimer; disu
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    similarity).
ALTERNATIVE PRODUCTS:
                                                                                             184 RCDKPRR 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P15692; 1VGH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IsoId=P15691-1;
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                                                                                                                                            KCDKPRR
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85.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence=VSP_004613, VSP_004614;
3S TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence=Displayed;
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                                                                                                                                                                                                                                                                                                          INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTEN
MISSING (in isoform Beta).
/FTId=VSP_004613.
R -> K (in isoform Beta).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                splicing;
                                                                                                                                                                                                                 Score 39; DB Pred. No. 19;
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BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                           EDBF903E46E24789 CRC64;
                                                                                                                                                                                             Mismatches
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Best Local Similarity
Matches 6; Conser
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                                                                                                                                                      MESAU
                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                              Multige
SIGNAL
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smART; SM00141; PDGF; 1.
pROSITE; PS00249; PDGF 1; 1.
pROSITE; PS50278; PDGF 2; 1.
Mitogen; Angiogenesis; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AB053350; BAB20890.1; -. HSSP; P15692; 1VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the European Bioinformatics Institute. There are no rest
use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by ar
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          Mesocricetus auratus (Golden hamster).
Eukaryota; Metazoa; Chordata; Craniata
Mammalla; Eutheria; Rodentia; Sciurogn
                                                                       28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-FEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precurso
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSSP; P15692; 1VGH.
InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entities requires a license agreement (See http://www.isb-sib.ch/announce/
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                                               permeability f
VEGF OR VEGFA.
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SUBCELLULAR LOCATION: Secreted but
to the extracellular matrix unless
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cell growth. Induces endothelial proliferation and vascular permeability (By similarity). SUBUNIT: Homodimer; disulfide-linked. Also found as heterod
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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                                                                                                                                       MESAU
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Pred. No.
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL)
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Maruyama I., Sakamoto
                                                                                                                                                                                                                                                                                                                                                                                   POTENTIAL.
VASCULAR ENDOTHELIAL
BY SIMILARITY.
          Sciurognathi;
                      Craniata; Vertebrata; Euteleostomi
                                                                                                                                       PRT;
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           Muridae;
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Best Local :
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01-FEB-1996 (Rel. 33,
01-FEB-1996 (Rel. 33,
28-FEB-2003 (Rel. 41,
Vascular endothelial (permeability factor)
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CARBOHYD
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Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suldae;
                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                Heparin-binding; Multigene SIGNAL 1 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
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"Expression of vascular endothelial growth receptors during embryonic implantation in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. TISSUE=Decidua, ar
                                                                                                                                                                                                                                                                                                                                                                                    CHAIN
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PROSITE; PS50278; PDGF_2; 1.
Mitogen; Angiogenesis; Growth factor;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (Mesocricetus auratus).";

CERTITISSUE Res. 296:339-349(1999).

-I-FUNCTION: Growth factor active in angiogenesis, vasculogenesis a endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFRZ/Kdr receptors and to heparan sulfate and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=10036;
                                       VEGF OR VEGFA.
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SUBUNIT: Homodimer; disulfide-linked. Also found
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SUBCELLULAR LOCATION: Secreted but
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                                                growth factor (VPF).
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VASCULAR ENDOTHELIAL GROWTH
BY SIMILARITY.
BY SIMILARITY.
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BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
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Pred. No. 19;
1; Mismatches
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VEGA CANFA STANDARD; P
Q9MYV3; Q9XSF3; Q9XSF4; Q9XSF5;
28-FEB-2003 (Rel. 41, Created)
                                                                                                                                                                                                                                  Hepari:
                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                    Mitogen;
                                                                                                                                                                                                                                                                      PROSITE;
                                                                                                                                                                                                                                                                              InterPro; IPR000072; PD_growth_factor.
Pfam; PP00341; PDGF; 1.
ProlDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                    EMBL; X81380; CAA57143.1; -.
EMBL; AF318502; AAG33064.1; -.
PIR; S52130; S52130.
HSSP; P15692; 1VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene.";
Submitted (NOV-2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=95143284; PubMede78841203;
Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.;
"Nucleotide sequence and expression of the porcine endothelial growth factor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9823;
                                                                                                                                                                                                                                                              PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Biochim. Biophys.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                    send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked.
with PIGF (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FUNCTION: Growth factor active in angiogenesis, vascuendothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apopinduces permeabilization of blood vessels. It binds to VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan
                                                                                                                                                            IXIn-binding; Multigene f

ALL 1 26

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ILPID 51 93

ILPID 82 127

ILPID 86 129

ILPID 76 76

ILPID 85 85

ILPID 85 85

ILPID 86 100
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 to the extracellular matrix unless
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ENCE FROM N.A.
T., Canty J.M.;
cloning of porcine
                                                                                     7
                                                                                                      6; Conserv
                                                                                                                                                                                                                                                 PS00249; PDGF 1; 1.
PS50278; PDGF 2; 1.
Anglogenesis; Growth factor; Glycoprotein;
                                                                  RCDKPRR 190
                                                                                    KCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FROM N.A.
                                                                                                                                             90
                                                                                                        Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cardiac vascular endothelial growth
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                                                                                                                                                                                                                                           family.
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                                                                                                                Score 39;
Pred. No.
                                                                                                                                                                     BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
                                                                                                                                                     N-LINKED (GLCNAC.
T -> A (IN REF. 2
                                                                                                                                                                                                    BY SIMILARITY. BY SIMILARITY.
                                                                                                                                                                                                                       VASCULAR ENDOTHELIAL
                                                                                                                                                                                                                                POTENTIAL.
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                                                                                                       Mismatches
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19;
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                                                                                                                                                                                                                       GROWTH FACTOR
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R PROSITE; PS00249; PDGF 1; 1.

R PROSITE; PS00249; PDGF 2; 1.

R PROSITE; PS50278; PDGF 2; 1.

M Mitogen; Anglogenesis; Growth factor; Glycoprotein; Signal; Mitogen; Alternative splicing; Multigene family.

ET SIGNAL 1 26 POTENTIAL.

FT CHAIN 1 26 VASCULAR ENDOTHELIAL GROWTH FACTO DISULFID 51 93 BY SIMILARITY.

ET DISULFID 82 127 BY SIMILARITY.

BY SIMILARITY.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <del>:</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vascular endothelial permeability factor) VEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scheidegger P., Weigl
Ballmer-Hofer K., Jaus
"Vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                    ProDom;
                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00341; PDGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSSP; P15692;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  between the Swiss Institute of Bioinformatics the European Bioinformatics Institute. There a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (MAR-1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Jingjing L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE=Heart;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Biol. Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. (ISOFORM VEGF-1
MEDLINE=20125516; PubMed=10661874;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9615;
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28-FEB-2003 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000072;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IsoId=Q9MYV3-3; Sequence=VSP 004615, VSP 004616;
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FUNCTION: Growth factor active in angiogenesis, vasculogenesis a endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUBUNIT: Homodimer; disulfide-linked. with PlGF (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Name=VEGF-164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=VEGF-182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Name=VEGF-188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Event=Alternative splicing, Na
Comment=Additional isoforms
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; AJ133758;
; AF133250;
; AF133249;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AF133248;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IsoId=Q9MYV3-2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IsoId=Q9MYV3-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                       ; PD001629; PD_growth_factor; SM00141; PDGF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IVGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; CAB82426.1; -.; AAD29684.1; -.; AAD29683.1; -.; AAD29682.1; -.
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41, Last annotation update)
ial growth factor A precursor
or) (VPF).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEMOCRACIO INSTITUTE. There are no restrictions institutions as long as its content is in a research of the content is in the content in the content is in the content in the content in the content is in the content i
                                                                                                                                                                                                                                                                                                                                                                                                                                                              PD_growth_factor.
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                             INTERCHAIN (BY SIMILARITY)
INTERCHAIN (BY SIMILARITY)
      N-LINKED
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   (GLCNAC. .
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   .) (POTENTIAL).
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Canis.
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94, 11:41:03		50.0%; Score 39; DB 1; Length 214; 85.7%; Pred. No. 22; tive 1; Mismatches 0; Indels 0; Gaps 0;	140 140 K -> N (in isoform VEGF-164). /FTIG=VSP 004615. 141 164 Missing (In isoform VEGF-164). /FTIG=VSP 004616. 159 164 Missing (In isoform VEGF-182). /FTIG=VSP 004617. 143 143 I -> V (IN REF. 2). 161 161 P -> S (IN REP. 2). 214 AA; 25175 MW; 0AC980A158C44B27 CRC64;

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Q8minO capra hircu
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Q42571 xenopus lae
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Q8mkd drosophila
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Q8u547 agrobacteri
Q8y118 anabaena sp
Q8qrw6 chimpanzee
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Q8min1 capra hircu	O	σ	109	50.0	39	
Q8bt49 mus musculu		<u> </u>	106	•	39	
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Q944d2 prunus mume	0 Q944D2	Ħ	88	50.0	39	
Q8mi19 ovis aries	o	σ	64	-	39	
Q9wuh9 rattus norv		H	2906		40	
Q9lft1 arabidopsis	0 Q9LFT1	H	526	51.3	40	
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Q81d24 arabidopsis		ĭ	485	51.3	40	
Q8tf47 homo sapien	o	4	468	51.3	40	
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Q9lsg9 arabidopsis		10	351	51.3	40	
Q8n880 homo sapien	Q8N880		255		40	
O80201 methanobact	080201		216		40	
Q9r3n0 escherichia	o		216		40	
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ALIGNMENTS

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PRT; 65 AA. Created) Last sequence update) factor 121 (Pragment). Craniata; Vertebrata; Euteleostomi; dactyla; Ruminantia; Pecora; Bovoidea; H., Inaba T., Sawada T.; ncoding Vascular Endothelial Growth Factor Development and Maintenance of Caprine	CRTKPEKCDKPRR 	66.0%; Score 51.5; DB 6; Length 65; ilarity 61.1%; Pred. No. 0.2; Conservative 0; Mismatches 2; Indels 5; Gaps	endothelial growth factor 121 (Fragment). rcus (Goat). Retazoa; Chordata; Craniata; Vertebrata; Eute; ; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Caprinae; Capra. ID=9925; FROM N.A. orpus luteum; orpus luteum; orpus luteum; or Messenger RNAs Encoding Vascular Endothelial Receptors during the Development and Maintenance Lutea."; of MAY-2002) to the EMBL/GenBank/DDBJ databases. 114353; AAM76674.1; IFRO00072; PD growth factor. 100341; PDGF; 1. 100341; PDGF; 1. PD501629; PD_growth_factor; 1. M00141; PDGF; 1. M00141; PDGF; 1. PS50278; PDGF_2; 1. 65 AA; 7562 MW; BA3E5384364B05E3 CRC64;	PRELIMINARY; 2002 (Trembirel. 22, 2002 (Trembirel. 22, 2003 (Trembirel. 23,

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NON TER
SEQUENCE
                                                     PRINTS; PRO0438; GPCYSKNOT.

PRODOM; PD001629; PD_growth_factor;

PROST; SMO0141; PDGF; 1.

PROSTTE; PS00249; PDGF 1; 1.

PROSITE; PS50278; PDGF 2; 1.

SEQUENCE 148 AA; 17234 MW; 4ADI:
                                                                                                                                                                                                                                                                                                                                                                              EMBL; AF008593; AAE
HSSP; P49763; 1FZV.
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01-JAN-1998 (TrEMBLrel. 05,
01-MAR-2003 (TrEMBLrel. 23,
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01-JAN-1998
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Zheng J., Tsoi S.C., Magness R.R.;
"Growth factor expression in ovine f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea; Bovidae; Caprinae; Ovis.
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01-OCT-2000 (TrEMBLrel. 15,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vascular endothelial growth
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InterPro; IPR000072; PD_growth_factor
Pfam; PF00341; PDGF; 1.
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factor 122.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Krieg P.A.;
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Best Local :
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01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation updat
THEG protein (Testicular haploid expressed gene).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mannan A.U., Luecke K., Burfeind P., Engel "Molecular cloning, expression studies and human homologue of THEG.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
MEDLINE=20270174; Pub
Yanaka N., Kobayashi
SEQUENCE FROM N.A. STRAIN=1161; Oliver K., Harris
                                                                              Eukaryota; Fungi; P
Saccharomycetales;
NCBI_TaxID=5476;
                                                                                                                                                      Candida albicans (Yeast).
                                                                                                                                                                        Questionable orf. CA20C1.18C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genew; HGNC:13706; THEG. InterPro; IPR006623; THEG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (APR-2002) to the EMBL; AB033129; BAA93718.1; EMBL; AP268610; AAG17663.1; EMBL; BC028574; AAH28574.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Strausberg R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; I
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (Human)
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  Harris D.;
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shi K., Wakimoto
                                                                                                           Ascomycota; mitosporic
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Pred. No. 5
                                                                                                           Saccharomycotina; Saccharomycetales;
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RA Adams M.D., Celniker S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA Sutton G.G., Wortman J.R., Yandell M.D., Zhang O., Chen L.X.,
RA Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Brandon R.C., Baxendale J., Bayraktaroglu L., Beasley E.M.,
RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Dietz S.M.,
RA Cherry J.M., Cawley S., Dahlke C., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Cherry J.M., Cawley S., Dahlke C., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Geoblos B., Delicher A., Posng Z., Gaun P., Harris M.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Harris N.L., Harvey D., Heiman T.J., Wei M.-H., Ibeywam C.,
RA Harris N.L., Harvey D., Heiman T.J., Wei M.-H., Ibeywam C.,
RA Lasko P., Lei Y., Levitsky A.M., Hotton J.A., Ketchum K.A.,
RA Lasko P., Lei Y., Levitsky A.M., Hotton J., McDerson D.,
RA Mount S.M., Wolson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
RA Palazzolo M., Balson K.A., Stynest M. S., Scheler F., Shen H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
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Q8MKQ6;
01-OCT-2002
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Drosophila melanogaster (Fruit fly).

Eukaryota, Metazoa, Arthropoda, Hexapoda, Insecta, Pterygota,

Neoptera, Endopterygota, Diptera, Brachycera, Muscomorpha,

Ephydroidea, Drosophilidae, Drosophila.
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Tait E., Simon M.C., King S., Brown A.J., (
"A Candida albicans Genome Project: Cosmid"
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STRAIN=1161;
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gal Genet. Biol.
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01-OCT-2001
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Submitted
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                                                                                           01-OCT-2001 (TrEMBLrel. 18, 01-OCT-2001 (TrEMBLrel. 18, 01-MAR-2003 (TrEMBLrel. 23,
                                                              DNA methyltransferase MLL9056.
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InterPro; IPR006611; DUF_DM6
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Bacteria; Proteobacteria; Alphaproteobacteria; Phyllobacteriaceae; Mesorhizobium.
                           Plasmid pMLa
                                             Rhizobium loti (Mesorhizobium loti)
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Smith C.D.,
niker S.E.,
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InterPro; IPR001091; CN4 Metransf.
InterPro; IPR002095; D21M6 mtfrase.
InterPro; IPR0020941; N6/N4_Mtase.
InterPro; IPR002092; N6 Mtase.
Pfam; PP01555; N6 M4 Mtase; 1.
PRINTS; PR00506; D21N6WTFRASE.
PRINTS; PR00508; S21N4WTFRASE.
PRINTS; PR00508; S21N4WTFRASE.
PROSITE; PR000092; N6_MTASE; 1.
Transferase; Methyltransferase; Plasmid; Complete proteome.
Transferase; Methyltransferase; Plasmid; Complete proteome.
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MEDLINE=21608551; PubMed=11743194;
Goodner B., Hinkle G., Gattung S., Miller N., Blanchard M.,
Qurollo B., Goldman B.S., Cao Y., Askenazi M., Halling C., Mullin
Houmiel K., Gordon J., Vaudin M., Iartchouk O., Epp A., Liu F.,
Wollam C., Allinger M., Doughty D., Scott C., Lappas C., Markelz
Flanagan C., Crowell C., Gurson J., Lomo C., Sear C., Strub G.,
Cielo C., Slater S.;
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Rhizobiaceae; Rhizobium.
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                                                                                                                                                                                                                                                                                                                                                                          Science 294:2323-2328(2001).
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DNA Res. 7:331-338(2000).
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21,
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Alphaproteobacteria; Rhizobiales;
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Last sequence update)
Last annotation update)
                                                                                                                                            Score 42; DB
Pred. No. 8.4;
1; Mismatches
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Pred. No.
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                                                                                                                                                                                                                      DB 16; Length 72;
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Sugimoto M.,
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RESULT 9 Q8YU18

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RESULT 11
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                  Q39795 PRELIMINARY;
Q39795;
O1-NOV-1996 (TrEMBLrel. 01, C
01-NOV-1996 (TrEMBLrel. 01, L
01-OCT-2002 (TrEMBLrel. 22, L
28 albumin storage protein pr
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Q8QRW6;
01-JUN-2002
01-JUN-2002
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Q8YU18;
01-MAR-2002
01-MAR-2002
01-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=21595285; PubMed=11759840; Kuritz T., Sasamoto S., Kaneko T., Nakamura Y., Wolk C.P., Kuritz T., Sasamoto S., Watanabe A., Iriguchi M., Ishikawa A., Kawashima K., Kimura T. Kishida Y., Kohara M., Mateumoto M., Mateuno A., Muraki A., Nakazaki N., Shimpo S., Sugimoto M., Takazawa M., Yamada M., Yasuda M., Tabata S.; Yasuda M., Tabata S.; "Complete genomic sequence of the filamentous nitrogen-fixing cyanobacterium Anabaena sp. strain PCC 7120."; DNA Res. 8:205-213(2001).
EMBL; AP003589; BAB74242.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Davison A.J., Akter P., Dolan A., Wright K.M., Alcendor D.J., Hayward G.S., McGeoch D.J.; "The human cytomegalovirus genome revisited.", Submitted (FEB-2002) to the EMBL/GenBank/DDBJ d EMBL; AF480884; AAM00758.1; -. SEQUENCE 262 AA; 27884 MW; A055E20515A26572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chimpanzee cytomegalovirus.
Viruses; dsDNA viruses, no RNA stage;
Betaherpesvirinae, Cytomegalovirus.
NCBI_TaxID=188763;
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227 AA; 27026 MW;
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ilarity 63.6%;
Conservative
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Last annotation
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Pred. No.
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Pred. No. 24;
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7A12DD8831B852EB CRC64;
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ima K., Kimura T.,
A., Muraki A.,
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Best Local S
Matches 6
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Best Local Similarity
Matches 6; Conserv
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosid;
eurosids II; Malvales; Malvaceae; Malvoideae; Gossypium.
NCBI_TaxID=3635;
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SIGNAL
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SIGNAL
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TISSUB-Cotyledon;
Galau G.A., Wang H.Y.-C., Hughes D.W.;
Galau G.A., Wang H.Y.-C., Hughes D.W.;
"Cotton Mat5-A (C164) gene and Mat5-D cDNAs encoding methionine-rich
2S albumin storage proteins.";
Submitted (JAN-1992) to the EMBL/GenBank/DDBJ databases.
EMBL; M86213; AAA33066.1; -.
                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                  CHAIN
                                                                                                                                                                                                                                                                                        Pfam; PF00234; tryp_alpha_amyl; SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                              albumin storage protein.";
Submitted (JAN-1992) to the EMBL/GenBank/DDBJ databases
EMBL; M83301; AAA3304; -.
                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=Coker 201; TISSUE=Cotyledon; Galau G.A., Wang H.Y.-C., Hughes D.W.; Gotton Mat5 (C164) gene and cDNAs encoding a methionine-rich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gossypium hirsutum (Upland cotton).

Bukaryotta; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
eurosids_II; Malvales; Malvaceae; Malvoideae; Gossypium.
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Pfam; PF00234; tryp_alpha_amyl;
SMART; SM00499; AAI; 1.
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124
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CEMEPGREDTPSR 136
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Pred. No.
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2S ALBUMIN STORAGE PROTEIN.
2S ALBUMIN STORAGE PROTEIN.
; 02ACE24FPEC9EF90 CRC64;
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2S ALBUMIN STORAGE PROTEIN.
2S ALBUMIN STORAGE PROTEIN.
; 43ACF35FE97D19B4 CRC64;
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Pred. No.
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                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             139
                                                                                                                                DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ВВ
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                                                                                                                              Length 139;
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                                                                                    Gaps
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RESULT 073822

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RESULT 14
Q8SXZ3
ID Q8SXZ
              CAN DESCRIPTION OF THE PROPERTY OF THE PROPERT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 6
EMBL; AY075490; AAL68300.1; -.

FlyBase; FBgn0038767; CG4413.

InterPro; IPR007087; Znf_C2H2.

Pfam; PF00096; zf-C2H2; 2.

ProDom; PD000003; Znf_C2H2; 1.

SMART; SM00355; Znf_C2H2; 2.

PROSITE; PS00028; ZINC_FINGER_C2H2_1; 2.

PROSITE; PS0057; ZINC_FINGER_C2H2_2; 2.

Metal-binding; Zinc; ZInc-finger.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q8SXZ3;
Q8SXZ3;
01-JUN-2002
01-JUN-2002
01-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                073822
073822;
01-AUG-1998
01-AUG-1998
01-MAR-2003
                                                                                                                                                                                                                                                                                                                                              Stapleton M., Brokstein P., Hong L., Agbayani A., Carlson J., Champe M., Chavez C., Dorsett V., Dresnek D., Farfan D., Frise E., George R., Gonzalez M., Guarin H., Kronmiller B., Li P., Liao G., Miranda A., Mungall C.J., Nunco J., Pacleb J., Paragas V., Park S., Patel S., Phouanenavong S., Wan K., Yu C., Lewis S.E., Rubin G.M., Celniker S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta;
Neoptera; Endopterygota; Diptera; Brachycera; Musco
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PR00438; GFCYSKNOT.

ProDom; PD001629; PD growth_factor;
SMART; SM00141; PDGF; 1.

PROSITE; PS00249; PDGF 1; 1.

PROSITE; PS50278; PDGF 2; 1.

SEQUENCE 144 AA; 16479 MW; 303E;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Brachydanio rerio (Zebrafish)
Eukaryota; Metazoa; Chordata;
Actinopterygii; Neopterygii; T
Cyprinidae; Banio.
NCBI_TaxID=7955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
Liang D., Ge R.;
"Vascular endothelial growth factor 121 isoform from zebrafish, rerio.";
                                                                                                                                                                                                                                                                                                                            Submitted (JAN-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=Berkeley;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CG4413.
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InterPro; IPR002400; GF cysknot.
InterPro; IPR000072; PD growth factor.
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AF059661; AAC
HSSP; P49763; 1FZV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (APR-1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=7227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1998 (TrEMBLrel. 07, 1998 (TrEMBLrel. 07, 2003 (TrEMBLrel. 23, r endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity 6; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KAKKERCEKPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RTKPEKCDKPR 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ? (TrEMBLrel.
? (TrEMBLrel.
3 (TrEMBLrel.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
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Last annotation updat
factor 121 isoform.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Last
Last
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 41; DB Pred. No. 23; 3; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Danio rerio).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         370
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 144;
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SEQUENCE

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42003 MW;

2F4D54C9E9BB6BB4 CRC64;

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RESULT 15
Q9VDQ4
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                                                                                                  RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D., RA Adams M.D., Celniker S.E., Hilt R.A., Evans C.A., Galle R.F., RA Amanatides P.G., Scherer S.E., Hilt R.A., Evans G.A., Galle R.F., RA Amanatides P.G., Chen L.X., RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N., RA George R.A., Cayle C., Batter E.G., Helt G., Champe M., Ffeiffer B.D., RA Burtis R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Ffeiffer B.D., RA Handon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Ffeiffer B.D., RA Hallew R.M., Basu A., Baxendale J., Bayraktaraglu L., Beasley E.M., RA Ballew R.M., Basu A., Baxendale J., Bayraktaraglu L., Beasley E.M., RA Beson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S., RA Gersty J.M., Cawley S., Dahlke C., Davenport L.B., Davies P., RA Gerbahlos B., Delcher A., Deng Z., Mays A.D., Daw I., Dietz S.M., RA Gerbahlos B., Delcher A., Deng Z., Mays A.D., Daw I., Dietz S.M., RA Gerbahlos B., Delcher A., Deng Z., Mays A.D., Daw I., Dietz S.M., RA Gerbahlos B., Devangelista C.C., Perraz C., Perriara S., Fleischhann W., RA Golden K., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M., Harvey D., Heiman T.J., Hermandez J.R., Houck J., J., Jalali M., Kalush F., Garell J.H., Gu Z., Guan P., Harris M., A Harris N.L., Harvey D., Heiman T.J., Heimandez J.R., Houck J., J., Jalali M., Kalush F., Karpen G.H., Ke Z., Kenison J.A., Ketchum K.A., RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Khip D., Lai Z., Liang Y., Lin X., Jalali M., Kalush F.D., McIntesh T.C., McLeod M., McNip D., Lai Z., Liang Y., Lin X., Naton D.R., Nelson K.A., Nixon K., Nusskern D.R., Nelson D.L., Ra Keinert K., Remington K.A., Nixon K., Nusskern D.R., Pecleb J.M., Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G., Ra August S.M., Welson K.A., Nixon K., Nusskern D.R., Nelson D.L., Ra Palazzolo M., Welson K.A., Nixon K., Nusskern D.R., Pecleb J.M., Ra Palazzolo M., Welson K.A., Nixon K., Nusskern D.R., Smith T., Ra Svirskes R., Tector C., Truner R., Venter E., Wang A.H., Wang X., Ra Alley 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
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Q9VDQ4;
01-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                 Evans C.A., Banzon J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CG4413 protein. CG4413.
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01-OCT-2002 (TrEMBLrel.
01-MAR-2003 (TrEMBLrel.
                                                  SEQUENCE FROM N.A.
Celniker S.E., Adams M.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=20196006; PubMed=10731132;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4
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               Gocayne J.D.,
An H., Baldwin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       242
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22,
23,
Champe
Amanatides P.G., Brandon R.C., Rogers Y
D., Banzon J., Beeson K.Y., Busam D.A.,
Champe M., Davenport L.B., Dietz S.M.,
                                                    Kronmiller B., Wan K.H., Holt R.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 41;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            439
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Matches 7
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Misra S., Crosby M.A.
Hradecky P., Huang Y
                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
Adams M.D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dodson K., Dorsett V., Doup L.E., Doyle C., Dresnek D., Farfan D., Ferriera S., Frise E., Galle R.F., Gary N.S., George R.A., Gonzalez M., Houck J., Hoskins R.A., Hostin D., Howland T.J., Ibegwam C., Jalali M., Kruse D., Li P., Mattei B., Moshrefi A., McIntosh T.C., Moy M., Murphy B., Nelson C., Nelson K.A., Nunco J., Pacleb J., Paragas V., Park S., Patel S., Pfeiffer B., Phouanenavong S., Pittman G.S., Puri V., Richards S., Scheeler F., Stapleton M., Strong R., Svirskas R., Tector C., Tyler D., Williams S.M., Zaveri J.S., Smith H.O., Venter J.C., Rubin G.M.; "Sequencing of Drosophila melanogaster genome."; Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                 Misra S., Crosby M.A., Matthews B.B., Bayraktaroglu L., Campbell K Hradecky P., Huang Y., Kaminker J.S., Prochnik S.E., Smith C.D., Tupy J.L., Bergman C., Berman B., Carlson J.W., Celniker S.E., Clamp M., Drysdale R., Emmert D., Frise E., de Grey A., Harris N., Krommiller B., Marshall B., Millburn G., Richter J., Russo S., Searle S.M.J., Smith E., Shu S., Smutniak F., Whitfield E., Ashburner M., Gelbart W.M., Rubin G.M., Mungall C.J., Lewis S.E., "Annotation of Drosophila melanogaster genome.";
                                                                                                                                                                                 InterPro; IPR007087; Znf_C2H2.
InterPro; IPR007086; Znf_C2H2 sub.
Pfam; PP00096; zf_C2H2; 5.
PRINTS; PR00048; ZINCFINGER.
ProDom; PD000003; Znf_C2H2; 1.
SMART; SM00355; Znf_C2H2; 5.
                                                                                                                        PROSITE; PS00028; ZINC_FINGER_C2H2_1; 5.

PROSITE; PS50157; ZINC_FINGER_C2H2_2; 5.

Metal-binding; Nuclear protein, Zinc; Zinc-finger.

SEQUENCE 439 AA; 50327 MW; 236D6C4046B64EA2 CRC64;
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D., Celniker
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e EMBL/GenBank/DDBJ
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Search completed: January 30, 2004, 11:44:38 Job time: 14.4667 secs

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Post-processing: Minimum Match 0%
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Score Match Length DB ID 120 100.0 20 21 AAB18545 120 100.0 146 13 AAR22348 120 100.0 146 13 AAR2348 120 100.0 146 19 AAR2354 120 100.0 146 19 AAR35364 120 100.0 146 21 AAR375029 120 100.0 146 21 AAB37505 104 86.7 105 21 AAB3785 104 86.7 121 12 AAR11385 104 86.7 121 14 AAR42607	Immunogenic peptid Alternative form o Sequence of vascul Vascular endotheli VEGFA 146 amino ac Rat VEGF subunit A Human colon cancer Human vascular end Human VEGF-121. H
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ALIGNMENTS

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640000	entry)		peptide;
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Immunogenic peptide fragment derived from FGF and/or VEGF

arteriovenous malformation; corneal disease; rubeosis; neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia; arthritis; diabetic neovascularisation; mecular degeneration; wound healing; peptic ulcer; Helicobacter related disease; fracture; keloid; vasculogenesis; hematopolesis; ovulation; menstruation; placentation; cat scratch fever Immunogenic peptide; fibroblast growth factor; FGF; VEGF; cancer; vascular endothelial growth factor; hyperproliferative disorder; haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis; telangiectasia; psoriasis; scleroderma; pyogenic granuloma; myocardial angiogenesis; Crohn's disease; plaque neovascularisation; myocardial angiogenesis; Crohn's disease; plaque neovascularisation;

14-SEP-2000 WO200053219-A2

Unidentified.

11-MAR-1999; 10-MAR-2000; 2000WO-US06320.

99US-0266543

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                          Bayne ML,
                                                                                                                                                                                                                                                                                                                                                                                                                   Protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAB18542-51 represent immunogenic peptide fragments of fibroblast growth factor (FGF) and/or vascular endothelial growth factor (V
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                                                                                                                                21-SEP-1990;
21-SEP-1990;
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                                                                             (MERI ) MERCK & CO INC.
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/label= VEGF_A-subunit
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                                                                                                                                                                                                                                                                                                                                                              /note= "120 amino acids long"
                                                                                                                                                                                                                                                                                                                                                                                                                                        /label= signal
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vascular repair; blood vessel implant;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (VEGF).
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RESULT 3
AAR27354
ID AAR2
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Best Local S
Matches 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           were amplified using PCR primers as in AAQ23049 and AAQ23050. Three sets of clones were identified. Clone #12 encoded the 164 amino acid secreted form of VEGF A-subunit (see AAR22347). Clone #14 has a 135 bp deletion and thus encodes a 120 amino acid form and Clone #16 has a 72bp insertion and encodes a 188 amino acid form and Clone #16 has a 72bp insertion and encodes a 188 amino acid mature protein (AAR22351). The deleted region lies between the second base of the Am140 codon and the third base of the Am3184 codon. The 120 amino acid mature protein has Asn140 converted to Lys140. See also AAQ23038-023050
The full length coding region of the A subunit or monomer of VEGF is determined from three sets of overlaping CDNA clones. Degene: oligo. primers based on the amino acid sequences Phe-Met-Asp-Val-Tyr-Gln from polypeptide L42 (residues 42-47) and Cys-Lys-Asn-Thr-Asp from polypeptide T38 (residues 164-168) were under the first control of the fir
                                                                                                                                                                                                                                            Vascular endothelial cell growth factor sub-units - which stimulate vascular endothelial cell growth, used for inducing tissue repair
                                                                                                                                                                                                                                                                                                                                                                                                          Bayne ML,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vascular development; mitogen; blood vessel; vascular endothelial growth factor; neovascu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence of vascular endothelia 146 amino acid residue subunit.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-MAR-2003
25-FEB-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR27354;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAR27354 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vascular endothelial cell growth factor II - used as artificial blood vessels or to promote tissue repair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; AAQ23039.
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                                                                                                                                                              Disclosure; Fig 4; 61pp; English
                                                                                                                                                                                                                                                                                                                             N-PSDB;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 9; Page 14 and Fig 4, 38pp, English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-SEP-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                                                                                                          1992-325745/40.
DB; AAQ28953.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CECRPKKDRTKPEKCDKPRR 146
                                                                                                                                                                                                                                                                                                                                                                                                             Thomas KA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      146 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (updated)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       91US-0676436.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         92EP-0302750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Protein;
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pred. No. 1.9e-08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          neovascularisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   factor VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
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                                                                                   Degenerate
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(residues 164-168) were used

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ARESULT 4
AAW53640
ID AAW53640
ID AAW5
AC AAW5
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AC Vasc
KW Witc
CXX Witc
CXX Witc
CXX Ratt
XX Witc
CXX S1-A
PR 31-A
PR 
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31-AUG-1994;
21-SEP-1990;
05-JAN-1993;
                                                The present sequence represents a rat vascular endothelial growth factor II (VEGF II) A subunit variant with a conversion of Asn 140 to Lys 140, and the deletion of His 141 to Arg 184 from the wild-type given in AAW53639. The present invention describes: (1) a mammalian VEGF II protein comprising an A subunit from AAW53649, AAW53641, and a B subunit from AAW53639, AAW53640 or AAW53641, and a B subunit from AAW53639 or the first 115-135 amino acids of AAW53638; and (2) a mammalian VEGF comprising a heterodimer or homodimer of B subunits. The growth factor is used for promoting vascular development and repair and for promoting tissue repair.

N.B. The present sequence is not given inthe specification but is derived from Fig 5 as stated in the claim.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            to PCR amplify the central region of the cDNA for VEGF A chain. A single band migrating at 420 bp was gel purified, digested with Sall, ligated into pcEm3Zf(+) and sequenced. The nucleotide sequence obtained (p4238) was used to design antisense and sense PCR primers to amplify the 5' and 3' ends of the cDNA. These 5' and 3' clones are denoted p5-15 and pw3, respectively. In addition to the cDNA coding the 164 amino acid secreted form identified by protein sequencing, two alternatively spliced cDNAs encoding a 146 amino acid forms are cloned and sequenced. (Updated on 25-MAR-2003 to correct PN field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 1; Page -; 46pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vascular endothelial growth factor proteins - having specified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bayne ML,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Vascular endothelial cell growth factor; VEGF II; rat; glioma cell; mitogenesis; blood vessel growth; artificial blood vessel.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-JUL-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (MERI ) MERCK & CO INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            146 AA;
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90US-0586638.
93US-0000834.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Thomas
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Pred. No. 1.9e-08;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
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RESULT 5
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ID AAY57029
ID AAY5
AC AAY5
AC AAY5
AC AAY5
AC VEGF
KW VEGF
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Best Local S
Matches 20
                                                         Matches
                                                                       Best
                                                                                    Query Match
                                                                                                                                       This is the amino acid sequence of a 146 amino acid residue A subunit of vascular endothelial cell growth factor (VEGF). The invention relates to a purified and isolated VEGF c subunit amino acid sequence AAY57025, VEGF exists in various microheterogenous forms, and is useful for the promotion of vascular development and repair. The invention also relates to human VEGF heterodimers AC or EC and homodimer CC, where A, B and C are subunit amino acid sequences. The VEGF AC, BC or CC amino acid sequences can be used in a tissue repairing pharmaceutical composition. The novel growth factors are useful for the production or coverage of artificial blood vessels with vascular endothelial cell. They are also useful for the induction of tissue growth and repair.
                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                              Disclosure; Fig 3; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; AAZ39827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VEGF; vascular endothelial growth factor; A subunit; tissue growth; vascular development; artificial blood vessel; repair; human.
                                                                                                                                                                                                                                                                                                                                                           Purified and isolated vascular endothelial cell growth factor C for the induction of tissue repair or growth -
                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2000-038268/03
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Thomas KA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-NOV-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VEGFA 146 amino acid
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127
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                                                                       Similarity
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                            CECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CECRPKKDRTKPEKCDKPRR 20
                                                                                                                   146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bayne ML
                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                91US-0676436
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                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           residue subunit sequence.
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Pred. No. 1.9e-08;
146
                                                                    Score 120; DB 21;
Pred. No. 1.9e-08;
                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                     146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      146;
                                                        0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0,
                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                           subunit
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RESULT 6 AAB37505

AAB37505 standard; Protein; 146

AAB37505

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RESULT 7
AAB53387
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                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present invention is concerned with the human vascular endothelial growth factor (VEGF) C subunit. VEGF is a vascular endothelial cell mitogen and can be used to promote vascular development and repair. The C subunit may exist as a homodimer or a heterodimer with the VEGF A or B subunit. VEGF can be used in the treatment of wounds of mammals, to cover artificial blood vessels with vascular endothelial cells, in the
                                                                                    identification; cytostatic; cardioactive; neuroprotective; vulnerary; immunomodulatory; muscular; gynaecological; gastrointestinal; nephrotropic; antiinfective; antibacterial; gene therapy; wound; neural disorder; immune system disorder; muscular disorder;
                                                                                                                                                                 Human colon cancer antigen protein sequence SEQ ID NO:927.
                                                                                                                                                                                              09-MAR-2001
                                                                                                                                                                                                                                                AAB53387 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                               growth.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 9; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human vascular endothelial cell growth factor (VEGF) C subunit DNA protein, useful for promoting vascular development and repair, and promoting tissue repair, especially for treating wounds in mammals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Thomas KA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16-JAN-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US6140073-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vascular endothelial growth factor; VEGF C subunit; cell division; artificial blood vessel; tissue growth; tissue repair.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rat VEGF subunit A SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26-FEB-2001
          WO200055351-A1
                                    Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             production of artificial blood vessels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20-SEP-1993;
                                                             infectious disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MERI ) MERCK & CO INC.
                                                                          eproductive disorder; gastrointestinal disorder; renal disorder;
                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2001-014858/02.
                                                                                                                                                                                                                                                                                                                 127
                                                                                                                                                                                                                                                                                                                                                                    20;
                                                                                                                                                                                                                                                                                                                                          μ
                                                                                                                                       colon cancer; colon cancer antigen; diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAC83512.
                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                CECRPKKDRTKPEKCDKPRR
                                                                                                                                                                                                                                                                                                                CECRPKKORTKPEKCDKPRR 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bayne ML;
                                                                                                                                                                                                                                                                                                                                                                                                                     146 AA;
                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                            (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4; 58pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    91US-0676436.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 93US-0124259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           96US-0586039
                                                                                                                                                                                                                                                Protein; 105
                                                              cardiovascular
                                                                                                                                                                                            entry)
                                                                                                                                                                                                                                                                                                                                                                               100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               English.
                                                                                                                                                                                                                                                                                                                                                                                .0%;
                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                  Score 120; DB 22;
Pred. No. 1.9e-08;
); Mismatches 0;
                                                                                                                                                                                                                                                                                                                                          20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         33
                                                                                                                                                                                                                                                ₽
                                                               disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             and to induce tissue repair or
                                                                                                                                                                                                                                                                                                                                                                                           Length 146;
                                                                                                                                         detection;
                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                  Gaps
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for
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RESULT 8
AAR11385
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Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAC97991 to AAC98763 encode the human colon cancer associated proteins, called human colon cancer antigens, given in AAB53234 to AAB54006. The human colon cancer antigens can have cytostatic, cardioactive, muscular; neuroprotective, immunomodulatory, gynaecological, gastrointestinal, vulnerary, nephrotropic, antiinfective and antibacterial activities, and can be used in gene therapy. The colon cancer antigen polynucleotides, proteins and antibodies to the proteins are useful for the prevention, treatment and diagnosis of colon diagnostics and research, such as for chromosome identification, and as hybridisation probes. The proteins may also be used to prevent diseases such as neural disorders, immune system disorders, muscular disorders, reproductive disorders, immune system disorders, muscular disorders, reproductive disorders, immune system disorders, muscular disorders, AAC98772 and cardiovascular disorders. AAC98772 and cardiovascular disorders. AAC98772 and present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Colon cancer associated gene sequences, referred to as colon cancer antigens, useful for the treatment, prevention, and diagnosis of colon disorders such as colon cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                       Bovine vascular endothelial cell growth factor; angiogenesis; wound healing; hVEGF; PDGF.
                                                                                                                                                                                                                                 Human vascular endothelial cell growth factor 121.
                                                                                                                                                                                                                                                              25-MAR-2003
08-MAY-1991
                                                                                                                                                                                                                                                                                                         AAR11385;
                                                                                                                                                                                                                                                                                                                                    AAR11385 standard; Protein; 121 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 11; Page 1486; 2104pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rosen CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               08-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21-SEP-2000.
                         14-DEC-1989;
27-JUL-1989;
                                                                                                  21-FEB-1991
                                                                                                                                                          Bos taurus.
                                                                       27-JUL-1990;
                                                                                                                               WO9102058-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         invention.
(CALD ) CALIFORNIA BIOTECHNOLOGY INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000-587534/55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17;
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                                                                                                                                                                                                                                                                                                                                                                                                                            CECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                                                                                                                                                                                                                                                                              CECRPKKDRARQEKCDKPRR 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ruben SM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000WO-US05883.
                                                                                                                                                                                                                                                             (updated)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-0124270.
                         89US-0450883.
89US-0387545.
                                                                       90WO-US04227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  86.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ۲,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 104;
Pred. No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 21;
.8e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u>.</u>.
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RESULT 9
AAR42607
ID AAR4
  PRR XXX COXXXX COXXXX COXXXX COXXXX COXXXX COXXXX COXXXX COXXX COXXXX COXXX COXXXX COXXX COXXXX COXXX COXXXX COXXX
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the protein in circulation, whereas hBEGF165 binds heparin strongly. The product can be used for angiogenesis and re-endothelialisation of inner vascular surfaces in wound healing, e.g. treatment of full-thickness wounds such as dermal ulcers, venous ulcers and diabetic ulcers, burns, in surgery, in balloon angioplasty and for the in vitro culturing of endothelial cells. Hybrid growth factors of pDGF and VEGF can exhibit a mitogenic profile between each factor and can be used for wound healing or as inhibitors of angiogenesis for e.g. preventing the growth of tumours.
                                                                                                                                                                                                                                                                                                                        /note= "inserted amino acid relative Misc-difference 115 \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Angiogenesis; wound healing; mitogen; vascular endothelial cells; Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human VEGF-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25-MAR-2003
28-OCT-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR42607;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             different message splicing, have different properties. In partic. hVEGF121 does not bind to heparin leaving more of the protein free to bind to VEGF receptor and increase the half-life and distribution of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    different
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA encoding vascular producing the factor f in wound healing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tischer ER,
                                                                                                                                                    15-JUN-1993.
                                                                                                                                                                                                      US5219739-A
                                                                                                                                                                                                                                                                                                                                                                               Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR42607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The two forms of VEFG (AAQ10797 and AAQ10917) which arise through
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1991-073534/10
                                                                                                 27-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    analogues in which CYS residues are substd. are more stable. also AAQ10791-93; AAQ10796-97; AAQ10806-08 and AAQ11099. ated on 25-MAR-2003 to correct PA field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                         sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CECRPKKDRTKPEKCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CECRPKKDRARQEKCDKPRR 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fig 7(1-2); 94pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (updated)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Abrhamam,
89US-0387545.
89US-0450883.
90US-0559041.
                                                                                                 90US-0559041
                                                                                                                                                                                                                                                                                                /note= "Lys 115 of hVEGF-121 is replaced by 44
                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein; 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      r endothelial cell
for angiogenesis s
                                                                                                                                                                                                                                                amino acids encoded spliced exon in hypo
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 104; DB Pred. No. 2.1e 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and re-endothelialisation
                                                                                                                                                                                                                                                   hVEGF-165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 12;
.1e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ν
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 121;
                                                                                                                                                                                                                                                   alternatively (see AAR38921)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                        to bVEGF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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RESULT 10
AAY23943
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                    The present sequence represents vascular endothelial growth factor (VEGF) 121. The specification describes a monoclonal antibody which is specific to VEGF 121, and a hybridoma producing this antibody. The antibody is used in a method for measuring the amount of VEGF 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The sequence of AAQ44260 contains an open reading frame correspond to the 165 amino acid human vascular endothelial cell growth factor (hVEGF-165, see AARA38921). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 121 amino acid hVEGF (see AARA2607). The full length coding sequences
 Sequence
                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                              Vascular endothelial growth factor; VEGF; VEGF 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY23943;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Isolated DNA sequences, expression vectors and transformant cells - used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                          present in a sample
                                                                                                     Disclosure; Page 5; 6pp; Japanese.
                                                                                                                               New VEGF121-specific monoclonal antibody - levels of VEGF121
                                                                                                                                                                       WPI; 1999-437318/37.
                                                                                                                                                                                                                             24-DEC-1997;
                                                                                                                                                                                                                                                      24-DEC-1997;
                                                                                                                                                                                                                                                                                 06-JUL-1999
                                                                                                                                                                                                                                                                                                           JP11178593-A.
                                                                                                                                                                                                                                                                                                                                                                                      Amino acid sequence of vascular endothelial growth factor (VEGF) 121.
                                                                                                                                                                                                                                                                                                                                                                                                                   21-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY23943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     poly-A+ RNA as template. (Updated on 25-MAR-2003 to correct PF field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 be generated using PCR with human foetal vascular smooth muscle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 3; Fig 7; 40pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; AAQ49601.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1993-205302/25.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Abraham JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (SCIO-) SCIOS NOVA INC
                                                                                                                                                                                                  FURE ) FUJIREBIO KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        госат
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CECRPKKURTKPEKCDKPRR 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     standard; peptide; 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CECRPKKDRARQEKCDKPRR 121
 121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
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                                                                                                                                                                                                                             97JP-0365972
                                                                                                                                                                                                                                                      97JP-0365972.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       86.7%;
85.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mitchell RL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 104;
Pred. No. 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tischer EG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .1e-06;
                                                                                                                                             useful for measuring
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    frame corresponding
                                                                                                                                                                                                                                                                                                                                                              monoclonal antibody.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
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Length 121;

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                                                                                                                                                                                                                   RESULT 12
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Best Local S
Matches 17
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Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2956). ANY08278-Y08301 are human growth factor protein fragments used in the method of the invention.
                             Mature human vascular endothelial
                                                                           13-MAR-2001
                                                                                                                                                                     AAB50428 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Preparing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1999-278785/24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Erdmann H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-NOV-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               growth
                                                                                                                                                                                                                                                                                                                                                                             ch 86.7%;
l Similarity 85.0%;
17; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    active
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kaerst U,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BIOTECHNOLOGISCHE FORSCHUNG MBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                           (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human; dimer; cysteine knot; cellular inclusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7; 14pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97DE-1048734.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  growth factor dimers from inclusion bodies
                                                                                                                                                                     Protein; 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein fragment
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mueller
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                German.
                                                                                                                                                                                                                                                                                                                                                                               1;
                                                                                                                                                                                                                                                                                                                                                                               Score 104; DB Pred. No. 2.1e 1; Mismatches
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Pred. No. 2.1e-06;
1; Mismatches 2
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                          growth factor polypeptide
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                                                                                                                                                                                                                                                                                                                                                                                                       DB 20;
%.le-06;
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                                                                                                                                                                                                                                                                                                                                                                                                                           Length 121;
                                                                                                                                                                                                                                                                                                                                                                                 Indels
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                                                                                                                                                                                                                                                                                                                                                                               Gaps
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RESULT 13
AAE32329
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                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence encodes a monomer of a vascular endothelial growth CC factor (VEGF) dimer. The dimer comprises a first and a second monomer, CC each comprising at least amino acids 11-116 of a defined 147 amino acid CC sequence, or a sequence having at least 90% identity to the defined CC sequence, and retaining a cysteine at or corresponding to position 116, CC which is disulphide-bonded to an additional extraneous cysteine. The CC vEGF dimer is useful for inducing angiogenesis and vascular remodelling, CC treating peripheral arterial disease, coronary artery disease, essential compertension, microvascular angiopathy and polycystic kidney disease, coronary disease, diseases, diseases arising from disordered transport of solutes coronary diseases, and disorders due to accumulation of ascites in the
                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypotensive; litholytic; nephrotropic; antiarteriosclerotic; antiinflammatory; angiogenesis; vascular remodelling; injury; peripheral arterial disease; coronary artery disease; hypoxia; essential hypertension; microvascular angiopathy; hypercapnia; polycystic kidney disease; vascular endothelial cell repair;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jue RA, Scl
Baldwin PA,
                                                             Human vascular endothelial growth factor (VEGF) 121.
                                                                                             24-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 1; Fig 1; 61pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vascular endothelial growth factor dimer, useful for treating essential hypertension, polycystic kidney diseases, microvascular angiopathy and coronary artery disease, comprising two monomeric subunits
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-PSDB;
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20-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; vascular endothelial growth factor; VEGF; VEGF dimer;
                                                                                                                              AAE32329
                                                                                                                                                            AAE32329 standard; Protein; 121
                                                                                                                                                                                                                                                                                                                                                                                                             peritoneum
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      lung disease; kidney disease; inflammatory bowel disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001-041064/05
DB; AAC90473.
                                                                                                                                                                                                                                              102
                                                                                                                                                                                                                                                                                                             l Similarity
17; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SCIOS INC
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PA, Pollitt NS;
                                                                                                                                                                                                                                              CECRPKKDRARQEKCDKPRR 121
                                                                                                                                                                                                                                                                                                            86.7%;
nilarity 85.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                              121 AA;
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                                                                                             (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Stathis PA,
                                                                                                                                                                                                                                                                                                            Score 104; DB 22;
Pred. No. 2.1e-06;
L; Mismatches 2;
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                                                                                                                                                                                                                                                                                                                                            Length 121;
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                                                                                                                                                                                                                                                                                                               Gaps
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Vascular endothelial growth factor; VEGF; angiogenesis; wound healing; bone growth; osteoporosis; osteoarthritis; bone reconstruction; ulcer; lesion; injury; trauma; periodontal condition; protein therapy; human.

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Best Local S
Matches 17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to a fusion protein comprising non-heparin binding vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF peptide portion and useful for promoting angiogenesis and/or bone growth in mammalian host. The fusion protein is useful for promoting angiogenesis, wound healing and bone growth. Compositions containing bone growth promoting fusion protein can be used to treat osteoporosis, rheumatoid or osteoarthritis, to improve poor bone healing, to promote implant integration and function of artificial joints and to facilitate bone reconstruction. They can also be used to treat e.g. ulcers, lesions, injuries, burns, trauma, periodontal conditions, lacerations and other conditions. The invention is also useful in protein therapy. The present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New fusion protein comprising a non-heparin-binding vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF peptide portion, useful for promoting angiogenesis and/or bone growth in
                                                                                                                                                       D1701; vascular endothelial growth factor; PPV-VEGF; angiogenesis; endothelial cell proliferation; gene therapy; diagnostic; tissue repair; immunomodulation; dendritic cell differentiation; DNA vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
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             27-MAR-1998;
                                                                                                                                                                                                                                                  13-DEC-1999
                                                                                                                                                                                                                                                                                                           AAY33438 standard; Protein; 146 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10-APR-2002; 2002WO-US11406
                                         27-MAR-1998;
                                                                                                   DE19813774-A1
                                                                                                                               Parapoxvirus.
                                                                                                                                                                                                                  Parapox virus VEGF growth factor homologue protein fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sequence is human VEGF121 protein.
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                                                                                                                                                                                                                                                                                                                                                                                    102
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17; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                   CECRPKKDRARQEKCDKPRR 121
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                                                                                                                                                                                                                                               (first entry)
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               98DE-1013774
                                          98DE-1013774.
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                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 104; DB 24;
Pred. No. 2.1e-06;
1; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 121;
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This invention describes a novel polypeptide that is a parapox virus homolog of human vascular endothelial growth factor (PPV-VEGF) and stimulates endothelial cell proliferation. The products of the invention have angiogenic activity. The polypeptide can be used in pharmaceutical compositions for therapeutic or diagnostic use, e.g. for stimulating angiogenesis or tissue repair or for immunomodulation, e.g. by stimulating endothelial cell proliferation or inhibiting dendritic cell stimulating endothelial cell proliferation or inhibiting dendritic cell
WPI; 1995-336820/43
N-PSDB; AAQ99080.
                                                                                                                                                                                                                                                                                                                                          Conjugate; growth factor; FGF; cytotoxin; saporin; eye; regulation; cell proliferation; psoriasis; pterygia; corneal clouding; cancer; rheumatoid arthritis; vascular endothelial; fibroblast; epidermal;
                                                                                                                                                                                                                                                                                                                                                                                               Human vascular endothelial growth factor-121, VEGF-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    differentiation. Nucleic acids encoding the polypeptide can be used in pharmaceutical compositions for DNA vaccination or gene therapy. This sequence represents a protein fragment of a parapox virus D1701 vascular endothelial growth factor (VEGF) homologue.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homolog of human vascular endothelial growth factor useful for stimulating endothelial cell proliferation, e.g. for stimulating angiogenesis or tissue repair or for immunomodulation
                                       Baird JA,
                                                                                                                                                                                                                                 Protein
                                                                                                                                                                                                                                                                        Кeу
                                                                                                                                                                                                                                                                                                                                                                                                                            14-MAY-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAR91075 standard; Protein; 147 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dehio C,
                                                                                              15-MAR-1994;
                                                                                                                                     15-MAR-1995;
                                                                                                                                                                                         WO9524928-A2
                                                                                                                                                                                                                                                         Peptide
                                                                                                                                                                                                                                                                                                                             heparin binding
                                                                                                           15-MAR-1994;
                                                                                                                                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (PLAC ) MAX PLANCK GES FOERDERUNG WISSENSCHAFTEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                   PRIZM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CECRPKKDRARQEKCDKPRR 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Roettgen M,
                                         Houston LL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fig 2;
                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                   PHARM INC
                                                                                             94US-0213447.
94US-0213446.
                                                                                                                                     95WO-US03448
                                                                                                                                                                                                                 /label= sig_peptide
27..147
/label= VEGF-121
                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  86.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rziha H,
                                         Nova
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ۲.
                                         MP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 104;
Pred. No. 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Buettner M;
                                         Sognowski
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 20;
                                         BA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
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CARR91075-R91078 are human vascular endothelial growth factors (VEGFs).

Charles a heroding a VEGF can be used to create a fusion protein (FP),

Che cDNA encoding a VEGF can be used to create a fusion protein (FP),

Che cDNA of which includes a nucleic acid binding domain (NABD) and

Che encodes a heparin binding growth factor, HepGF (e.g. VEGF, FGF, HEEGF),

Che a protein synthesis inhibitor and opt. a linker imparting flexibility

Che the FP. The FP can be used to target a protein synthesis inhibitor,

Che an antisense DNA sequence or an inhibitor of elongation factor 2, to a

Che cell carrying a HepGF receptor. The conjugates of the invention are

Che used to inhibit cell proliferation in cells carrying the particular

Che creating a receptor. A specific application is to prevent

Che carriers in the anterior eye after surgery, partic. to prevent

Che carriers in the anterior eye after surgery, partic. to prevent

Che carriers laser treatment. Other conditions which may be treated include

Che cut a ser treatment. Other conditions which may be treated include

Che complications, Kaposi's sarcoma and rheumatoid arthritis.
                                                                                                                                                                    Query Match 86.7%; Score 104; DB 16; Best Local Similarity 85.0%; Pred. No. 2.5e-06; Matches 17; Conservative 1; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New conjugates of growth factor receptor ligand and targetted agent - partic. DNA or cytotoxin, used to control cell proliferation in the eye, e.g. to prevent growth of pterygii and corneal clouding
                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 184-185; 204pp; English.
128 CECRPKKDRARQEKCDKPRR 147
                                                      1 CECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                                                                                                                                                                                                                       147 AA;
                                                                                                                                                                                                                                                           Length 147;
                                                                                                                                                                              Indels
                                                                                                                                                                              0,
                                                                                                                                                                         Gaps
                                                                                                                                                                              0,
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밁 á Search completed: January 30, 2004, 11:40:06 Job time: 27.5096 secs

Sequence 14, Appl Sequence 2, Appli Sequence 25, Appl Sequence 55, Appl Sequence 57, Appli Sequence 57, Appli Sequence 57, Appli Sequence 3, Appli Sequence 3, Appli Sequence 3, Appli Sequence 3, Appli Sequence 2, Appli

Sequence

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein search, using sw model
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1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*

3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*

5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*
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Gapop 10.0 ,
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                        US-09-431-888-3

US-09-037-983C-15

US-09-037-983C-16

US-09-244-583-24

US-09-244-583-24

US-08-469-427A-15

US-08-569-063C-20

US-08-586-039B-31

US-08-586-039B-31

US-08-586-039B-35

US-08-586-039B-35

US-09-699-769-35

US-09-699-769-35

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US-09-37-983C-2

US-09-37-983C-2
                                                                                                                                                                                                                                                                                                                                                                                                             US-08-807-9928-1

US-09-392-932-1

US-09-36-054A-1

US-08-76-054A-2

US-09-574-708A-2

US-09-313-299-4

5194596-9

5219739-9
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US-09-699-769-33
5194596-19
5219739-20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; Search time 8.51282 Seconds (without alignments) 99.405 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 33, Appl
Sequence 33, Appl
Patent No. 5194596
Patent No. 5219739
Sequence 1, Appli
Sequence 4, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 4, Appli
Sequence 4, Appli
Patent No. 5194596
Patent No. 5219739
                                          Sequence 3, Appli
Sequence 15, Appl
Sequence 16, Appl
Sequence 16, Appl
Sequence 24, Appl
Sequence 20, Appl
Sequence 31, Appl
Sequence 31, Appl
Sequence 35, Appl
Sequence 35, Appli
Sequence 2, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Description
                                                                                                  LENGTH: 146 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-586-039B-33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 1
US-08-586-039B-33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 33, Application Patent No. 6140073
GENERAL INFORMATION:
Query Match
Best Local Similarity
Matches 20; Conserv
                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNSY/AGENT INFORMATION:
NAME: Hand, J. Mark
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18361DA
TELEPHONE: (908) 594-3905
TELEPHONE: (908) 594-4720
                                                                                                                                                                                                                                                        TELEFAX: (908) 594-4720 INFORMATION FOR SEQ ID NO: 33: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: USA
ZIP: 07065-0900
COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Bayne, Marvin L.
APPLICANT: Thomas Jr., Kenneth A.
TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
TITLE OF INVENTION: SUBUNIT
NUMBER OF SEQUENCES: 49
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merck & Co., Inc.
STREET: 126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/08/586,039B FILING DATE: 16-JAN-1996 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STATE: New Jersey
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ilarity 100.0%;
Conservative 0
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US-08-039-297B-2
US-08-569-032C-2
US-08-795-430-55
US-08-795-430-55
US-08-795-700-55
US-08-795-054A-7
US-09-699-769-47
US-09-699-769-47
US-09-882-816-3
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US-08-567-200A-2
US-08-807-992B-2
US-08-691-794-2
US-08-795-430-56
     0;
Score 120; DB 3
Pred. No. 3e-09;
Mismatches
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Result No.

Score

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DB 3;

Length 146; Indels

0

Gaps

0

104 104 104 104 104 104 101 101

Database

Minimum

seq

Scoring table: Sequence: Perfect score: Title: OM protein -

on:

CECRPKKORTKPEKCDKPRR

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RESULT 3
5194596-19
;PATENT NO. 5194596
; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOH
;C.;MITCHELL, RICHARD L.
;C.;MITCHELL, RICHARD L.
;C.;MITCHELL OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
;GROWTH FACTOR
                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 2
US-09-699-769-33
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GENERAL INFORMATION:
APPLICANT: Bayne, Marvin L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 33, Apprix
No. 6569434
                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (732) 594-4
INFORMATION FOR SEQ ID NO: 33:
SEQUENCE CHARACTERISTICS:
NUMBER OF SEQUENCES: 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 08/586,039
FILING DATE: 16-JAN-1996
APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18361DB
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SEQ ID NO: 33:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: Merck & Co., Inc.
STREET: 126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR C SUBUNIT
                                                                                                                                                                                           127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   127
                                                                                                                                                                                                                                                                      20;
                                                                                                                                                                                                                              CECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                                                           CECRPKKDRTKPEKCDKPRR 146
                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
ULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/09/699,769 FILING DATE: 30-Oct-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 07065-0900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: Rahway
STATE: New Jersey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CECRPKKDRTKPEKCDKPRR 146
                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 146 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Hand, J. Mark
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Application US/09699769
                                                                                                                                                                                                                                                                      Conservative
                                                                          EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (732) 594-3905
                                                                                                                                                                                                                                                                                     100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  594-4720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kenneth A.
                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                     Score 120; DB 4
Pred. No. 3e-09;
                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                       DB 4;
                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                       Length 146;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;Patent No. 5219739
; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES,
; JOHN C.;MITCHELL, RICHARD L.
;JOHN C.;MITCHELL, RICHARD L.
;JOHN C.;MITCHELL, RICHARD L.
;HVEGF 121 AND METHODS FOR THE ERODUCTION OF BOVINE AND HUMAN
;HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
;VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121
NUMBER OF SEQUENCES: 40
;CURRENT APPLICATION DATA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5219739-20; Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5194596-19
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
SEQ ID NO:20:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 86.7
Best Local Similarity 85.0
Matches 17; Conservative
                                                                                                                                                                                                                                                                                                                                                                                Sequence 1, Appli
Patent No. 602254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                       APPLICANT: Senger, Donald R
APPLICANT: Dvorak, Harold p
TITLE OF INVENTION: Immunol
TITLE OF INVENTION: specifi
TITLE OF INVENTION: permeab
TITLE OF INVENTION: vessel
NUMBER OF SEQUENCES: 31
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14.DEC-1989
APPLICATION NUMBER: 387,545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
                                                                          ZIP: 01930
COMPUTER READABLE FORM:
                                                                                                                                                     STREET: P.O. Box 5387
CITY: Magnolia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 121
OPERATING SYSTEM: MS DOS SOFTWARE: WordPerfect version 5.1
                                     COMPUTER:
                                                         MEDIUM TYPE:
                                                                                                                  COUNTRY:
                                                                                                                                      STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
les 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/07/559,041 FILING DATE: 27-JUL-1990
                                                                                                                                                                                           ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     102
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                                                                                                                                                                                                                                                                                                                                                                                                        Application
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                                                                                                                                  Massachusetts
                                                                                                                  USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                     IBM PS/1
                                                                                                                                                                                           David Prashker,
                                                           Diskette, 3.50 inch,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             85.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     86.7%;
                                                                                                                                                                                                                                                                    Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blood
                                                                                                                                                                                                                                                    vessel
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    Mismatches

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Pred. No. 3.5e-07;
1; Mismatches 2;
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Pred. No. 3.5e-07;
                                                                                                                                                                                           Esq.
                                                           1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 121;
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; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 147
; TYPE: PRT
; ORGANISM: Homo Sapiens
US-09-392-932-1
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                                                                                                                                                                                                                                                          RESULT 7
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                                                                                                                                                                                     Sequence 4, Application US/08706054A Patent No. 6451764 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                         Matches
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
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Patent No. 635297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/392,932
CURRENT FILING DATE: 1999-09-09
EARLIER APPLICATION NUMBER: 60/099,694
EARLIER FILING DATE: 1998-09-09
NUMBER OF SEQ ID NOS: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: WETHODS OF TREATING HYPERTENSION AND
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
FILE REFERENCE: SCIOS.002A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
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Local Similarity 85.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/08/
FILING DATE: March 3, 1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY:
                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech,
                                                                                                           APPLICANT: Lee, James
Wood, William I.
TITLE OF INVENTION: VEGF-Related Protein
NUMBER OF SEQUENCES: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   128 CECRPKKDRARQEKCDKPRR 147
                                                                                                                                                                                                                                                                                                                    128 CECRPKKDRARQEKCDKPRR 147
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17; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/09392932
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                         86.7%;
ilarity 85.0%;
Conservative
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Pred. No. 4.2e-07;
                                                                                                                                                                                                                                                                                                                                                                                       Score 104; DB 4;
Pred. No. 4.2e-07;
1; Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                                                              DB 4; Length 147;
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US-09-574-708A-2
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                                                                                                                                                        US-09-574-708A-2
                                                                          Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 2, Application US/09574708A
Patent No. 6475796
GENERAL INFORMATION:
APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
                                                                                                                                                                                                                               SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
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                                                                                            Query Match
Best Local (
                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/574,708A CURRENT FILING DATE: 2000-05-18 PRIOR APPLICATION NUMBER: US 60/135,312 PRIOR FILING DATE: 1999-05-20
                                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: Vascular endothelial growth factor
                                                                                                                                                                                                                                                     SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                      FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                      TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                           LENGTH: 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIP: 94080

COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/706,054A
FILING DATE: 30-Aug-1996
CILASSIFICATION JOHN
PRIOR APPLICATION DATA:
APPLICATION UMBER: 60/003491
FILING DATE: 08-059-1995
ATTORNEY/AGENT INFORWATION:
NAME: Lee, Wendy M.
SOFTENEY LEE, WENDY M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity hes 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE DESCRIPTION: SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       128 CECRPKKDRARQEKCDKPRR 147
128 CECRPKKDRARQEKCDKPRR 147
                                                                          1 Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CECRPKKDRTKPEKCDKPRR 20
                    1 CECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 147 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                                                                                                                                                     FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 415/952-9881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REGISTRATION NUMBER: P-40,378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                            Conservative
                                                                                          86.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   86.7%; Score 104; DB 4; Length 147;
85.0%; Pred. No. 4.2e-07;
tive 1; Mismatches 2; Indels
                                                                          Score 104; DB 4; Length 147; Pred. No. 4.2e-07; 1; Mismatches 2; Indels
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US-09-313-299-4 ; Sequence 4, Application US/09313299B ; Patent No. 6576608

GENERAL INFORMATION:

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RESULT 11
5219739-9
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APPLICANT: Wood, William I.
APPLICANT: Wood, William I.
FITTLE OF INVENTION: VEGF-RELATED PROTEIN
FILE REFERENCE: P0963R1D1
CURRENT APPLICATION NUMBER: US/09/313,299B
CURRENT FILING DATE: 1999-05-17
EARLIER APPLICATION NUMBER: US 08/706,054
EARLIER APPLICATION NUMBER: US 60/003,491
EARLIER APPLICATION NUMBER: US 60/003,491
BARLIER FILING DATE: 1995-09-08
NUMBER OF SEQ ID NOS: 12
                                                                                                                   PATENT NO. 5219739

PATENT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;Patent No. 5194596
; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN;C.;MITCHELL, RICHARD L.
;C.;MITCHELL, RICHARD L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO:9:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
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TYPE: PRT
ORGANISM: Human
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NAME/KEY: Human
LOCATION: 1-147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
                                  APPLICATION NUMBER: US/
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
APPLICATION NUMBER: 450,883
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 387,545
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17; Conserv
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Pred. No. 8.7e-07;
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Pred. No. 4.2e-07;
1; Mismatches 2
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US-09-037-983C-15
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US-09-431-888-3
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; APPLICATION NUMBER: 387,545
; FILING DATE: 27-JUL-1989
;SEQ ID NO:9:
SOFTWARE: PatentIn version 3.1
SEQ ID NO 15
LENGTH: 136
                                                                                                                                                                                                                                                                                                     Sequence 15, Application US/09037983C Patent No.: 6583276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
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Best Local (
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APPLICANT: Mercer, Andrew A
APPLICANT: Savory, Loreen J
APPLICANT: Savory, Loreen J
APPLICANT: Stacker, Stephen B
APPLICANT: Stacker, Stephen
TITLE OF INVENTION: VASCULAR ENOTHELIAL GROWTH FACTOR-LIKE PROTEIN FROM ORF
TITLE OF INVENTION: VIRUS NZZ BINDS AND ACTIVATES MANMALIAN VEGF
TITLE OF INVENTION: RECEPTOR-2, AND USES THEREOF
                                                      APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, Israel
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
APPLICANT: Poltorak, Zoya
APPLICANT: Poltorak, Zoya
GILE REFERENCE: 000274-0009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR APPLICATION STED ID NOS: 17
NUMBER: 07 SEQ ID NOS: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/09/431,888A CURRENT FILING DATE: 1999-11-02 EARLIER APPLICATION NUMBER: 60/106,689 EARLIER FILING DATE: 1998-11-02 EARLIER APPLICATION NUMBER: 60/106,800 EARLIER APPLICATION NUMBER: 60/106,800
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo sapiens
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TYPE: PRT
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Pred. No.
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Pred. No. 8.7e-07;
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CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 17
LENGTH: 137
TYPE: PRT
ORGANISM: Homo sapiens
US-09-037-983C-17
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US-09-037-983C-17
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US-09-037-983C-16
                                                                                                                  ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-037-983C-16
                                                                                                                                                                           NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 16
LENGTH: 138
                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Dise
FILE REFERENCE: 000274-00009
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Best Local Similarity 47.2
Matches 17; Conservative
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Best Local Similarity 48.6%;
Matches 17; Conservative
                                   Query Match 71.2%;
Best Local Similarity 45.9%;
Matches 17; Conservative
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APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, Israel
APPLICANT: Vlodavsky, Israel
APPLICANT: Policorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Dise
FILE REFERENCE: 000274-00009
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                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/037,983C CURRENT FILING DATE: 1998-03-11 PRIOR APPLICATION NUMBER: 60/025,537 PRIOR FILING DATE: 1996-09-06
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102 CECRPKKDRARQEKQKRKRKKSRYKSWSVCDKPRR 136
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  1 CECRPKKDRTKPEK---
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47.2%;
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                                     1; Mismatches
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                                                        Score 85.5; DB 4;
Pred. No. 0.00012;
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---CDKPRR 20
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                                     Indels 17; Gaps
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Db 102 CECRPKKDRARQEKKSVRGKGKGSRYKSWSVCDKPRR 138

Search completed: January 30, 2004, 11:47:51 Job time: 8.51282 secs

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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DB seq length: 2000000000
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1: /cgn2_6/ptodata/2/pubpaa/U
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3: /cgn2_6/ptodata/2/pubpaa/U
4: /cgn2_6/ptodata/2/pubpaa/U
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6: /cgn2_6/ptodata/2/pubpaa/U
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11: /cgn2_6/ptodata/2/pubpaa/U
12: /cgn2_6/ptodata/2/pubpaa/U
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: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
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              US-10-346-802-4

US-10-392-931-2

US-10-418-529-2

US-10-083-817-1

US-10-268-447-2

US-09-832-355A-94

US-09-832-355A-97

US-09-832-355A-97

US-09-832-355A-104

US-09-832-355A-104
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US-09-925-299-927
US-09-832-355A-1
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                                   Sequence 927, App
Sequence 1, Appli
Sequence 4, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 3, Appli
Sequence 94, Appl
Sequence 97, Appl
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6	69	70	70	70	70	70	70	73.5	82	82	82	82	82	82	83	83	85	85	85.5	86.5	90.5	90.5	92.5	99	104	104	104	104	104
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13	12	149	149	149	149	149	149	188	171	145	145	145	145	145	214	214	190	190	164	162	154	154	150	353	650	648	630	462	371
15	15	15	15	12	12	12	10	12	9	15	14	12	12	12	10	w	15	12	12	11	1	11	H	15	12	11	12	11	11
US-10-156-932-81	-10-156-932	-10-262	-10-201-386	US-10-116-275-226	-10-346	US-10-021-660-102	US-09-795-006A-115	US-10-293-157-28	US-09-812-133-2		-10-083-817	US-10-418-529-4	-10-392-931-	10-319-828	US-09-907-007-22	US-09-349-954A-22	US-10-071-370A-2	US-09-921-143-7	US-10-293-157-24	US-09-832-355A-60	US-09-832-355A-62	-832-355A-	-05	US-10-196-793A-57	US-10-053-637-28	US-09-832-355A-126	US-10-053-637-24	US-09-832-355A-100	US-09-832-355A-103
Sequence 81, App1	e 73,	e 28,	55,	N	ın	_		0	'n	•	N	4		٧,	e 22,	22,	,2	.7		60	e 62,	Φ	61,	e 57,	O	e 126,	e 24,	e 100,	Sequence 103, App

ALIGNMENTS

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# Sequence 927, Application US/09925299

# Application US/09925299

# Applicant No. US20020055627A1

# GENERAL INFORMATION:

# APPLICANT: Rosen et al.

# TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies

# FILE REFERENCE: PA102

# CURRENT APPLICATION NUMBER: US/09/925,299

# CURRENT FILING DATE: 2001-08-10

# PRIOR APPLICATION NUMBER: PCT/US00/05883

# PRIOR FILING DATE: 2000-03-08

# PRIOR FILING DATE: 2000-03-08

# PRIOR FILING DATE: 1999-03-12

# NUMBER OF SEQ ID NOS: 1556

# SOFTWARE: Patentin Ver. 2.0

# SEQ ID NO 927

# LENGTH: 105
RESULT 2
US-09-925-299-927
US-09-925-299-927
US-09-925-299
Publication No. US20030040617A9
GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-925-299-927
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US-09-925-299-927
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Best Local Similarity
Matches 17; Conservat
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85.0%;
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Pred. No. 1.4e-06;
1; Mismatches 2;
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US-10-346-802-4
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US-09-832-355A-1
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                SEQ ID NO 4
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Publication No. US20030166873A1
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CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
SOFTWARE: PatentIn version 3.0
                                                                                                                                                                            APPLICANT: Wood, William I.
TITLE OF INVENTION: VEGF-RELATED PROTEIN
FILE REFERENCE: P0963R1D1
CURRENT APPLICATION NUMBER: US/10/346,802
CURRENT FILING DATE: 2003-01-17
                                                        PRIOR APPLICATION NUMBER: BARLIER APPLICATION NUMBER: US 08/706,054
PRIOR FILING DATE: EARLIER FILING DATE: 1996-08-30
PRIOR APPLICATION NUMBER: EARLIER REPLICATION NUMBER: US 60/003,491
PRIOR FILING DATE: EARLIER FILING DATE: 1995-09-08
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PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1556
SOFTWARE: Patentin Ver. 2.0
                                        NUMBER OF SEQ ID NOS: 12
                                                                                                                                           PRIOR APPLICATION NUMBER: US/09/313,299B PRIOR FILING DATE: 1999-05-17
                                                                                                                                                                                                                                                                   APPLICANT: Lee, James APPLICANT: Wood, Will
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Kovesdi, Imre APPLICANT: Kessler, Pau
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CURRENT FILING DATE: 2001-08-10
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TYPE: PRT
ORGANISM: Homo sapiens
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ORGANISM: Homo sapiens
ENGTH: 147
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Pred. No. 1.4e-06
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US-10-418-529-2
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; TYPE: PRT
; ORGANISM: Homo sapien
US-10-392-931-2
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US-10-392-931-2
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                                                                                                                                                                                                                                                                                                                  Sequence 2, Application US/10418529 Publication No. US20030220262A1
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Best Local Similarity 85.0
Matches · 17; Conservative
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                      CURRENT APPLICATION NUMBER: US/10/418,529
CURRENT FILING DATE: 2003-04-16
PRIOR APPLICATION NUMBER: 60/099694
PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR FILING DATE: 1999-03-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/10/392,931
CURRENT FILING DATE: 1999-09-09
PRIOR APPLICATION NUMBER: 60/099694
PRIOR FILING DATE: 1998-09-09
                                                                                                                                                                                                                                       APPLICANT: Schreiner,
APPLICANT: Johnson, F
APPLICANT: Scios, Inc
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SOFTWARE: FastSEQ for
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APPLICANT: University of Washington
TITLE OF INVENTION: TREATMENT OF MICROVASCULAR ANGIOPATHIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Schreiner, George F. APPLICANT: Johnson, Richard J.
PRIOR APPLICATION NUMBER: 60/126615
PRIOR FILING DATE: 1999-03-27
PRIOR APPLICATION NUMBER: 09/392931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR FILING DATE: 1999-03-27
                                                                                                                                                                                FILE REFERENCE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILE REFERENCE:
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OTHER INFORMATION: Sequence source: VEGE-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
NAME/KEY: Human
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                                                                                                                                                                  PLICANT: Scios, Inc.
PLICANT: University of Washington
PLICANT: University of Washington
PLICANTS OF INVENTION: TREATMENT OF ECLAMPSIA AND PREECLAMPSIA
PLE REFERENCE: SCIOS.003C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               128 CECRPKKDRARQEKCDKPRR 147
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                                                                                                                                                                                                                                                         r, George F.
, Richard J.
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85.0%;
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Pred. No. 2e-06;
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Pred. No. 2e-06;
l; Mismatches
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; TYPE: PRT
; ORGANISM: Homo Sapien
US-10-083-817-1
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; ORGANISM: Homo sapien
US-10-418-529-2
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
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Best Local Similarity
Matches 17; Conserv
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH: 147
                                                                      SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 2
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Best Local Similarity
-10-268-447-2
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APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
FILE REFERENCE: SCIOS.002C1
CURRENT APPLICATION NUMBER: US/10/083,817
CURRENT FILING DATE: 2002-02-26
                                                                                                                                                      PRIOR APPLICATION NUMBER: 60/135,312
PRIOR FILING DATE: 1999-05-20
PRIOR APPLICATION NUMBER: 09/574,708
                                                                                                                                                                                                                FILE REFERENCE: SCIOS.004DV1
CURRENT APPLICATION NUMBER: US/10/268,447
CURRENT FILING DATE: 2002-10-10
                                                                                                              PRIOR FILING DATE: 2000-05-18
NUMBER OF SEQ ID NOS: 11
                                                                                                                                                                                                                                                                           APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR
TITLE OF INVENTION: VARIANTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: 60/099,694
PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 09/392,932
PRIOR FILING DATE: 1999-09-09
          TYPE: PRT
ORGANISM: Homo sapiens
                                                       LENGTH: 147
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ilarity 85.0%; Pred. No. 2e-06;
Conservative 1; Mismatches
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Pred. No. 2e-06;
1; Mismatches
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US-09-832-355A-79
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                                                                                                US-09-832-355A-79
                                                                                                                                                                                                        FILE REFERENCE: 205654

CURRENT APPLICATION NUMBER: US/09/832,355A

CURRENT FILING DATE: 2001-04-10

NUMBER OF SEQ ID NOS: 126

SOFTWARE: Patentin version 3.0

SEQ ID NO 79

LENGTH: 222
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publication No. US20030027751A1
GENERAL INFORMATION:
APPLICANT: Kovesdi, Imre
APPLICANT: Kovesdi, Imre
APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
FILE REFERENCE: 205654
CURRENT APPLICATION NUMBER: US/09/832,355A
                                                                                                                                                                                                                                                                                                                       Sequence 79, Application US/0983235A
Publication No. US20030027751A1
GENERAL INFORMATION:
APPLICANT: Koveedi, Imre
APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
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SEQ ID NO 84
LENGTH: 212
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Best Local Similarity
Matches 17; Conserv
                                 Matches
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Best Local Similarity
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Best Local
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                                                                                                           FEATURE:
NAME/KEY: misc_feature
LOCATION: ()...()
OTHER INFORMATION: Synthetic
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ORGANISM: Artificial sequence
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                                                                                                                                                                                                TYPE: PRT
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Local Similarity 85.0%;
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1 CECRPKKDRTKPEKCDKPRR 20
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                                   Conservative
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1; Mismatches
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Pred. No. 2.8e-06;
                                Score 104; DB 11;
Pred. No. 2.9e-06;
1; Mismatches 2;
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US-09-832-355A-94
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                                                                                                                              RESULT 13
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; LOCATION: ()..()
; OTHER INFORMATION: Synthetic
US-09-832-355A-94
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Best Local Similarity
Watches 17; Conserve
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LENGTH: 367
TYPE: PRT
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Best Local Similarity 85.0
Matches 17; Conservative
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                                                        GENERAL INFORMATION:
                                                                     Sequence 104, Application US/09832355A Publication No. US20030027751A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
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APPLICANT: Kovesdi, Imre
APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: 205654
CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
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APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
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CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
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APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
FILE REFERENCE: 205654
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                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Artificial sequence
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Pred. No. 4.4e-06;
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Pred. No. 4.8e-06;
1; Mismatches 2
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FITLE OF INVENTION: VEGF FUSION PROTEINS
FILE REFERENCE: 205654
CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
SOFTWARE: Patentin version 3.0
SEQ ID NO 74
                            ; APPLICANT: Kessler, Paul
; TITLE OF INVENTION: VEGF FUSION PROTEINS
; FILE REFERENCE: 205654
; CURRENT APPLICATION NUMBER: US/09/832,355A
; CURRENT FILING DATE: 2001-04-10
; NUMBER OF SEQ ID NOS: 126
; SOFTWARE: Patentin version 3.0
; SEQ ID NO 89
; LENGTH: 371
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CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
SOFTWARE: Patentin version 3.0
SEQ ID NO 104
LENGTH: 367
                                                                                                                                                                                                                     Sequence 89, Application US/09832355A Publication No. US20030027751A1 GENERAL INFORMATION:
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APPLICANT: Kovesdi, Imre
APPLICANT: Kessler, Pau
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LOCATION: ()..()
OTHER INFORMATION: Synthetic
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LOCATION: ()..()
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ORGANISM: Artificial sequence
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TYPE: PRT ORGANISM: Artificial sequence
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RESULT 2 S57956 ovine vascular endothelial growth factor - sheep c;Species: Ovis orientalis aries, Ovis ammon aries (domestic s C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text_chang C;Accession: S57956 R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M. submitted to the EMBL Data Library, July 1995 A;Reference number: S57956 A;Accession: S57956 A;A	Query Match 84.2%; Score 101; DB 2; Length Best Local Similarity 80.0%; Pred. No. 1.4e-06; Matches 16; Conservative 2; Mismatches 2; Indel Qy 1 CECRPKKDRTKPEKCDKPRR 20	RESULT 1 A33787 A33787 A3787 A3787 A3787 A; Accession: A33787 A; Accession: A3787 A; A	30 45.5 37.9 581 2 B54665 31 45.5 37.9 606 2 A54665 32 45 37.5 249 2 T24604 33 45 37.5 249 2 S71558 34 45 37.5 376 2 S71558 35 45 37.5 465 2 S56203 36 45 37.5 2823 2 T23064 38 45 37.5 2823 2 T23064 38 45 37.5 2823 2 T23064 39 45 37.1 392 2 T19327 40 44.5 37.1 392 2 T19327 41 44.5 37.1 397 2 D96580 42 44.5 37.1 397 2 D96580 43 34 36.7 95 2 S01717 44 44 36.7 95 2 S01717 45 44 36.7 99 2 A55819
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R;Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M.
J. Biol. Chem. 267, 16317-16322, 1992
A;Title: Vascular endothelial growth factor. Regulation by cell differentiation A;Reference number: A43351; MUID:9235593; PMID:1644816
A;Reference number: A43351; MUID:9235593; PMID:1644816
A;Recession: A43351
A;Molecule type: mRNA
A;Residues: 1-116, 'ER', 119-190 <CLA>
A;Residues: 1-116, 'ER', 119-190 <CLA>
A;Cross-references: GB:M95200; NID:g202350; PIDN:AAA40547.1; PID:g202351
A;Mote: sequence extracted from NCBI backbone (NCBIN:110665, NCBIP:110675)
R;Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.; Folkman, J.
Growth Factors 4, 53-59, 1990
A;Title: Conditioned medium from mouse sarcoms 180 cells contains vascular endot
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A;Title: Amino acid and cDNA sequences of a vascular endothelial A;Reference number: A35987; MUID:90207249; PMID:2320579
A;Accession: A35987
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R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau,
Development 114, 521-532, 1992
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C;Date: 03-Feb-1994 #sequence revision 03-Feb-1994 #text_change 05-Nov-1999
C;Accession: B44881; A43351; A61029
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A;Molecule type: mRNA
A;Residues: 1-190 <CON>
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                                                                                                                                               \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                alternative splicing; angiogenesis; dimer; disulfide bond; glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1-190 <BRE>
                                                                                                                                                                                                                         Similarity
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                                                KPRR 20
                                                                                                                                                 CECRPKKDRTKPE-----
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                                                                                            CECRPKKDRTKPENHCEPCSERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCD
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                                                                                                                                                                                               Conservative
  190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           70.8%;
29.7%;
                                                                                                                                                                                                                    70.8%;
29.7%;
                                                                                                                                                                                             1;

    Mismatches

                                                                                                                                                                                                                      Score 85;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 85; DB 2;
Pred. No. 0.00027;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D.D.; Kwok, P.W.; Sullivan, K.A.; Palisi, T.M.; Hope
                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                         0.00027;
                                                                                                                                                                                                                                             DB 2;
                                                                                                                                                                                             <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
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                                                                                                                                                                                                                                             Length 190
                                                                                                                                                                                             Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    44;
                                                                                                                                            -----KCD 16
                                                                                                                                                                                                                                                                                                                                                                                                                                          cell mitogen
                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---KCD 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
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A;Residues: 1-140,209-214 <br/>
A;Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1; PID:g249861<br/>
A;Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1; PID:g249861<br/>
A;Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBIP:107625)<br/>
R;Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; Familletti, P.C.; Pan, Y.C.<br/>
J. Exp. Med. 172, 1535-1545, 1990<br/>
A;Title: Vascular permeability factor: a tumor-derived polypeptide that induces endothel<br/>
A;Reference number: A60932; MUID:91079755; PMID:2258694<br/>
A;Accession: A60932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Molecule type: protein
A;Residues: 27-33 <CLA>
R;Sugihara, T.; Kall.
Biochim. Biophys. Acta 1224, 365-370, 1994
Biochim. Biophys. Acta 1224, 365-370, 1994
A;Title: Enhanced expression of multiple forms of VEGF is associated
A;Reference number: 552136; MUID:95101726; PMID:7803491
                                                                                                                                                                                                                                                          R;Maglione, D.; Guerriero, V.; Vigiletto, G.; Delli-Bovi.
Proc. Natl. Acad. Sci. U.S.A. 88, 9267-9271, 1991
A;Title: IBolation of a human placente cDNA coding for a
A;Reference number: A41236; MUID:92021031; PMID:1924389
                                                                                                                                                                                                                                                                                                                                                                                                          placental growth factor precursor - human
C;Species: Homo sapiens (man)
C;Date: 19-Jun-1992 #sequence_revision 19-Jun-1992 #text_change 05-Nov-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C/Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3. C/Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homodimer; F;1-26/Domain: signal sequence #status predicted <SIG> F;27-214/Product: vascular endothelial growth factor-3 #status experimental <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Molecule type: mRNA
A;Residues: 1-214 <BRE>
A;Cross-references: GB:S37052; NID:g249856; PIDN:AAB22252.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT
A44881
                           A;Cross-references: GDB:134676; OMIM:601121
                                                                                                                                            A; Molecule type: mRNA
A; Residues: 1-149 < MAG>
                                                                                                                                                                                                      A; Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Note: sequence extracted from NCBI'backbone (NCBIN:104677,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            vascular endothelial growth factor-3 property. Note that the contains a secular endothelial growth
A; Map position:
                                                          A;Gene: GDB:PGF
                                                                                                                    A;Cross-references: GB:X54936; NID:g35521; PIDN:CAA38698.1; PID:g35522
                                                                                                                                                                                                                                     A; Accession: A41236
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                                                                                     Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
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14q24-14q31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          69.2%; Score 83; DB 2; L
100.0%; Pred. No. 0.00054;
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factor-2; vascular permeability factor
                                                                                                                                                                                                                                                                                                                                                      G.; Delli-Bovi, P.; Persico, M.G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mouse
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Query Match

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C;Species: Sus scrofa domestica (domestic pig)
C;Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
C;Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
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                                                                                                                                                                                        R;Tischer, B.; Mitchell, R.; Hartman, T.; Silva, J. Biol. Chem. 266, 11947-11954, 1991 A;Tille: The human gene for vascular endothelial A;Reference number: A40454; MUID:91268072; PMID:1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Species: Homo sapiens (man)
C;Date: 28-Aug-1992 #sequence_revision 28-Aug-1992 #text_change 05-Nov-1999
C;Date: 28-Aug-1992 #sequence_revision 28-Aug-1992 #text_change 05-Nov-1999
C;Accession: A41551; C41551; B41551; A40454; B40454; C40454; A40079; A40080;
C;Accession: A41551; C41551; B41551; A40454; B40454; C40454; A40079; A40080;
R;Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N_iAlternate names: vascular permeability factor N_iContains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R;Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Ve Biochim. Biophys. Acta 1260, 235-238, 1995
                                                                                                                                                                                                                                                                                                                                                                A;Molecule type: mRNA
A;Residues: 1-140,'N',183-232 <HOU2>
A;Accession: B41551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Title: The vascular endothelial growth factor family: identification of a fourth molecal, Reference number: A41551; MUID:92168017; PMID:1791831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            vascular endothelial growth factor 206 precursor - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GB:X81380; NID:g587559; PIDN:CAA57143.1; PID:g587560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-190 < SHA>
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                                                  A;Molecule type: DNA
                                                                         A; Accession:
                                                                                                                       A;Residues: 1-165,183-232 <TI1>
                                                                                                                                             A; Molecule type: DNA
                                                                                                                                                                                                                                                                                         A;Molecule type: mRNA
A;Residues: 1-141,227-232 <HOU>
                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Status: nucleic acid sequence not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: GB:S85192; NID:g246155;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Accession: C41551
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                                                                                                                                                                       A; Accession: A40454
                                                                                                                                                                                                                                                                                                                                      ;Status: nucleic acid sequence not shown; not compared with conceptual translation
  Residues: 1-140,'N',183-232 <TI2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Residues: 1-232 <HOU1>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ol. Endocrinol. 5, 1806-1814, 1991
Title: The vascular endothelial g
                                                                                                Cross-references: GB:M63971;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
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16; Conserv
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12; Conserv
                                                                      B40454
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  GB:M63972;
                                                                                             GB:M63972; GB:M63973;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ٧,
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Pred. No.
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4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                  T.; Silva, M.; Gospodarowicz,
  GB:M63973;
                                                                                                                                                                                           helial growth factor. Multiple protein forms PMID:1711045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PID:g246156
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  GB:M63974; GB:M63975; GB:M63977;
                                                                                             GB:M63974; GB:M63975; GB:M63976;
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  ନ୍ଥ
vascular endothelial growth factor precursor (version 2) - bovine C;Species: Bos primigenius taurus (cattle) C;Cpate: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999 C;Accession: B40080; B33787; A33255 R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N. Science 246, 1306-1309, 1989
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                                                                                                                                             B40080
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K;Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; J. Biol. Chem. 264, 20017-20024, 1989
A;Title: Human vascular permeability factor. Isolation from A;Reference number: A34492; MUID:90062112; PMID:2584205
A;Accession: A34492
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A;Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63978 R;Keck, P.J.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly, D. Science 246, 1309-1312, 1989 A;Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF. A;Reference number: A40079; MUID:90069609; PMID:2479987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Accession: C40454
A;Molecule type: DNA
A;Residues: 1-141,22
                                                                                                                                                                                                                                                                                                                                                       A;Description: promotes fluid and protein leakage from blood vessels (C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellul F;1-232/product: vascular endothelial growth factor 206 precursor #status predicte F;1-165,183-232/product: vascular endothelial growth factor 189 precursor #status F;1-41,27-232/product: vascular endothelial growth factor 121 precursor #status F;1-26/Domain: signal sequence #status predicted <SIG> F;1-26/Domain: signal sequence #status predicted <SIG> F;1-16/Domain: signal sequence #status predicted <SIG> F;1-26/Domain: signal sequence #status predicted <SIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: GDB:132244; OMIM:192240 A;Map position: 6p21-6p12 C;Function:
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A,Title: AIDS-associated Kaposi's sarcoma cells in culture
A,Reference number: JQ1463; MUID:92231879; PMID:1567395
A,Recession: JQ1463
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A;Accession: A40080
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A; Residues: 1-140,'N',183-232 <WEI>
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A;Residues: 1-140,'N',183-232 <LEU>
A;Cross-references: GB:M32977; NID:g181970; PIDN:AAA35789.1;
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                                                                                                                                                                                                                           Similarity
                                                                                     CECRPKKDRTKPEK 14
CECRPKKDRARQEK 141
                                                                                                                                                                                Conservative
                                                                                                                                                                                                                      55.8%;
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                                                                                                                                                                           Score 67; DB 2;
Pred. No. 0.078;
L; Mismatches
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A; Experimental source: strain AB972
R; Repetto, B.; Tzagoloff, A.
Mol. Cell. Biol. 10, 4221-4232, 1990
A; Title: Structure and regulation of KGD2,
A; Reference number: A35654; MUID:90318388;
A; Accession: A35654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Date: 30-Sep-1991 #sequence revision 12-Apr-1996 #text_change 05-May-2000 C;Accession: S57975; A35654; S78755; S11195 R;Murphy, L; Richards, C; Harris, D. submitted to the EMBL_Data Library, July 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dihydrolipoamide S-succinyltransferase (EC 2.3.1.61) N;Alternate names: alpha-ketoglutarate dehydrogenase C;Species: Saccharomyces cerevisiae
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R;Ferrara, N.; Henzel, W.J.
Biochem. Biophys. Res. Commun. 161, 851-858, 1989
A;Title: Fituitary follicular cells secrete a novel heparin-binding
A;Reference number: A33255; MUID:89286596; PMID:2735925
A;Accession: A33255
                                                                                                                                               A; Reference number: S78754
A; Accession: S78755
                                                                                                                                                                                                     A;Residues: 1-169,'HRKVSPQGKTQVRKKLQR',188,'KLLQR',194,'KPLQR',200,'KLQNQ',206,'RT',209
A;Cross-references: EMB1:M3453; NID:g171782; PIDN:AAA34720.1; PID:g171783
R;Ruecknagel, K.P.; Rospert, S.
submitted to the Protein Sequence Database, March 1999
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A;Residues: 27-190 <TIS>
A;Cross-references: GB:M31836; NID:g163808; PIDN:AAA30804.1; PID:g163809
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                                 A; Gene: SGD: KGD2; MIPS: YDR148c
                                                                                     A; Molecule type: protein A; Residues: 72-83 < RUE>
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A; Accession: S57975
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A;Accession: B33787
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A;Residues: 1-463 <MUR>
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                                                                                                                                                                                                                                                                                                                            ;Molecule type: DNA
Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cross-references: EMBL:Z50046; NID:g899393; PIDN:CAA90371.1; PID:g899398; GSPDB:GN0000
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   SGD:S0002555;
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Pred. No.
   MIPS:YDR148c
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                                                                                                                                                                                                                                                                                                                                                                                      the structural gene for yeast dihydrolipoyl PMID:2115121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             precursor - yeast (Saccharomyces
complex chain KE2; dihydrolipoyl
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R;Flamme, I.; Breier, v., ...
R;Flamme, I.; Breier, v., ...
Dev. Biol. 169, 699-712, 1995
A;Title: Vascular endothelial growth factor (VEGF)
                                                                               C;Date: 30-Jun-1991 #sequence revision 30-Jun-1991 #text_change 19-Jan-2001 C;Accession: S13547; A28483; A26994; S23566 R;Vuolteenaho, R.; Chow, L.T.; Tryggvason, K. J. Biol. Chem. 265, 15611-15616, 1990 A;Title: Structure of the human laminin B1 chain gene. A;Reference number: S13547; MUID:90368768; PMID:1975589 A;Accession: S13547
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Status: preliminary; translated
A;Molecule type: DNA
A;Residues: 1-128 <FLA>
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F;75-148/Domain: lipoyl/biotin-binding homology <LPB>
F;114/Binding site: lipoamide (Lys) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Superfamily: dihydrolipoamide acetyltransferase; lipoyl/biotin-binding homolo
C;Keywords: acetyl-CoA; acyltransferase; coenzyme A; lipoamide; mitochondrion;
F;1-71/Domain: transit peptide (mitochondrion) #status experimental <TNP>
A; Molecule type: DNA
A; Residues: 1-1786 < VUO>
                                                      A; Status: nucleic acid sequence not shown; translation not
                                                                                                                                                                                                                                                                                                              N; Alternate names: laminin chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: GB:S78343; NID:g999147; PID:g999148
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         vascular endothelial growth factor - C; Species: Phasianidae gen. sp. (qua:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              F;435,439/Active site: His, Asp #status predicted
                                                                                                                                                                                                                                                                                                                                    laminin beta-1 chain precursor -
                                                                                                                                                                                                                                                                                 Species: Homo sapiens (man)
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47.48;
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Pred. No. 2.9;
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Pred. No. 1
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A;Cross-references: GB:M61951; GB:J02778; NID:g186911; PIDN:AAA59486.1; PID:g18 A;Note: the nucleotide sequence was submitted to GenBank, February 1991 R;Pikkarainen, T.; Eddy, R.; Fukushima, Y.; Byers, M.; Shows, T.; Pihlajaniemi,

PID:g186913

Sara d D

A; Molecule type: mRNA
A; Residues: 1-1786 < PIK>
A; Cross-references: GB: M61951; GB: J02778; 1
A; Cross-references: GB: M61951; GB: J02778; 1
A; Taye, M.; Modi, W.S.; Ricca, G.A.; Mudd, Am. J. Hum. Genet. 41, 605-615, 1987
A; Title: Isolation of a cDNA clone for the

NID:g186911; PIDN:AAA59486.1; R.; Chiu, I.M.; O'Brien, S.J.

PID: 9186913

E.N.

A clone for the MUID:88021029;

PMID:3661559 human laminin-B1

chain

and its S.J.;

gene localiza:

A; Reference number: A28483; MUID:87280097; A; Accession: A28483

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A;Gene: GDB:LAMB1
A;Gene: GDB:LAMB1
A;Cross-references: GDB:119357; OMIM:150240
A;Cross-references: GDB:119357; OMIM:150240
A;Map position: 7q31.1-7q31.3
A;Matrons: 13/1; 71/3; 117/1; 141/3; 204/3; 226/1; 293/3; 334/1; 397/1; 457/1; 494/3; A;Matrons: 13/1; 71/3; 71/3; 1688/3; 1742/1
64/3; 1513/1; 1582/2; 1629/3; 1688/3; 1742/1
64/3; 1513/1; 1582/2; 1629/3; 1688/3; 1742/1
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A;Molecule type: mRNA
A;Residues: 1276-1469, 'V',1471-1695,'G',1697-1709 <JAY>
A;Residues: 1276-1469, 'V',1471-1695,'G',1697-1709 <JAY>
A;Cross-references: EMBL:M20206; NID:g186914; PIDN:AAA59487.1; PID:g186915
A;Cross-referenceho, R.; Kallunki, T.; Chow, L.; Ikonen, J.; Pikkarainen, T.; Tryggnin Extracellular Matrix Genes, Sandell L.J. and Boyd C.D., eds., pp. 175-193, A;Title: Genes for the human laminin B1 and B2 chains.
A;Reference number: S23566
C;Species: Mus musculus (house mouse)
C;Date: 28-Feb-1986 #sequence revision 30-Jun-1991 #text change 10-Dec-1999
C;Accession: A26413; S02679; S03326; S14877; A02871; S02036; S13543
R;Sasaki, M.; Kato, S.; Kohno, K.; Martin, G.R.; Yamada, Y.
Proc. Natl. Acad. Sci. U.S.A. 84, 935-939, 1987
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F;30-35/Disulfide bonds: #status predicted
F;120,356,519,677,965,1041,1195,1279,1336,1343,1487,1542,1643/Binding site: carbohydrate
F;1179,1182,1785/Disulfide bonds: interchain #status predicted
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F;1084-1129/Domain: laminin-type EGF-like homology <LE12>
F;1132-1176/Domain: laminin-type EGF-like homology <LE13>
F;1179-1397/Domain: I < LOMM2>
F;1179-1397/Region: heptad repeats
F;1398-1430/Domain: alpha <ALP>
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F;22-270/Domain: VI <DOM6>
F;271-548/Domain: V <DOM5>
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A; Residues: 762-1786 < VU2>
                                                                                                                                                                            N;Alternate
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                                                                                                                                                                     laminin beta-1 chain precursor - mouse
N;Alternate names: laminin chain B1
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52.9%;
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homology <LE02>
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homology <LE04>
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A;Retereuse Annace A;Retereuse A;Retereuse A;Rocession: A26413
A;Molecule type: mRNA
A;Residues: 1-1786 CSAS>
A;Rotes-references: EMBL:M15525; NID:g198700
A;Rote: translation in GenBank has additional 48
A;Note: translation in GenBank has additional 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Molecule type: mRNA
A;Residues: 1292-1530,'MEMP',1535-1691,'C',1693-1748,'N',1750-1786 <BAR>
A;Residues: 1292-1530,'MEMP',1535-1691,'C',1693-1748,'N',1750-1786 <BAR>
A;Cross references: EMBL:X05212; NID:952861; PIDN:CAA28839.1; PID:9809042
R;Deutzmann, R.; Huber, J.; Schmetz, K.A.; Oberbaeumer, I.; Hartl, L.
                                                                                                                                                                                                                                                                                           A;Description: interact with cells and with other basement membrane proteins to C;Superfamily: laminin beta-1 chain; laminin-type EGF-like homology C;Keywords: basement membrane; calcium binding; cell binding; coiled coil; extra F;1-21/Domain: signal sequence #status predicted <SIG> F;22-1786/Product: laminin beta-1 chain #status predicted <MAT> F;22-270/Domain: VI CDOM6>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: protein
A; Residues: 1561-1587 < DEU>
R; Paulsson, M.; Deutzmann, R.;
EMBO J. 4, 309-316, 1985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Molecule type: protein
A;Residues: 590-620 <AAN.
A;Residues: 501-620 <AN.
R;Barlow, D.P.; Green, N.M.; Kurkinen, M.; Hogan, B.L.M.
R;Barlow, D.P.; Green, N.M.; Kurkinen, M.; Hogan, B.L.M.
EMBO J. 3, 2355-2362, 1984
A;Title: Sequencing of laminin B chain cDNAs reveals C-terminal regions of coiled-coil
A;Reference number: A02870; MUID:85051302; PMID:6209134
A;Accession: A02871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Molecule type: protein
A;Residues: 457-466;854-868;932-946 <HAR>
R;Residues: 457-466;854-868;932-946 <HAR>
R;Mann, K; Deutrmann, R; Timpl, R.
Bur. J. Biochem. 178, 71-80, 1988
A;Title: Characterization of proteolytic fragments of the A;Reference number: S08895; MUID:89078415; PMID:2462498
A;Accession: S14877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Hartl, L.; Oberbaeumer, I.; Deutzmann, R. Eur. J. Biochem. 173, 629-635, 1988
A;Title: The N terminus of laminin A chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R; Fujiwara, S.; Shinkai, H.; Deutzmann, R.; Paulsson, M.; Timpl, Biochem. J. 252, 453-461, 1988
A;Title: Structure and distribution of N-linked oligosaccharide A;Reference number: S02678; MUID:88326259; PMID:2458101
A;Accession: S02679
                       F;821-864/Domain:
F;867-914/Domain:
                                                                                                 F;541-772/Domain: IV <DOM4>
F;773-1182/Domain: III <DOM3>
                                                                                                                                                                                                                                                                                                                                                                                                                                                           C; Function:
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A; Residues: 1700-1748,'N',1750-1759 < PAU
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Title: Evidence for coiled-coil alpha-helical regions A; Reference number: S13543; MUID:85257455; PMID:3848400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Deutzmann, R.; Huber, J.; Schmetz, K.A.; Öberbaeumer, I.;
Eur. J. Blochem. 177, 35-45, 1988
A;Tille: Structural study of long arm fragments of laminin.
A;Reference number: S01790; MUID:89030693; PMID:3181157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Reference number: S00624; MUID:88225080; A;Accession: S05326
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A; Residues: 28-42; 932-946 < FUJ>
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R;Lyttle, D.J.; Fraser, K.M.; Fleming, S.B.; Mercer, A.A.; Robinson, A.J.
J. Virol. 68, 84-92, 1994
A;Title: Homologs of vascular endothelial growth factor are encoded by the poxvirus orf A;Reference number: A49530; MUID:94076465; PMID:8254780
A;Contents: NZ2
A;Accession: B49530
A;Status: preliminary
A;Accession: E49530
A;Status: preliminary
A;Residues: 1-133 < LYT>
A;Residues: 1-133 < LYT>
A;Rosidues: 1-133 < LYT>
A;Rosidues: sequence: GB:S67520; NID:9456897; PIDN:AAB29220.1; PID:9456899
A;Note: sequence inconsistent with nucleotide translation
                                                                                                                                                                                                                                                                                                        C;Species: Orf virus
C;Date: 07-Apr-1994 #sequence_revision 18-Nov-1994 #text_change 08-Oct-1999
C;Accession: B49530
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B49530
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A;Title: Characterization of the murine VEGF-related factor gene
A;Reference number: JC4679; MUID:96183052; PMID:8607868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999 C;Accession: JC4680 R;Townson, S.; Lagercrantz, J.; Grimmond, S.; Silins, G.; Nordenskjoeld, M.
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F;1028-1081/Domain
                                                                                                                                                                                                                                                                                                                                                                                             vascular endothelial growth factor homolog A2R, 14.7K - Orf virus
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A;Introns: 137/2
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-188/Product: vascular endothelial growth factor-related factor #status predicted
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A;Residues: 1-188 <TOW>
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laminin-type EGF-like homology <LE11>
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A; Note: sequence extracted from NCBI backbone (NCBIN:141420, NCBIP:141425)
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밁 8 Best Local Similarity
Matches 9; Conserv Query Match 112 CDCRPRFTTTPPTTTRPPRR 131 1 CECRPKKDRTKPEKCDKPRR 20 42.5%; Score 51; DB 2; llarity 45.0%; Pred. No. 6.7; Conservative 2; Mismatches 9 Length 133; Indels 0, Gaps

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Search completed: January 30, 2004, 11:46:14 Job time: 8.61539 secs

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Minimum DB
Maximum DB
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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   seg length: 0
seg length: 2000000000
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Match
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Gapop 10.0 , Gapext 0.5
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    US-09-266-543-4
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   GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd
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VEGA MOUSE
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BAR6 CHITE
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NET1 HUMAN
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VEGH FAT
SOG DROME
RAT
PLGF MOUSE
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SOG DROME
RIM ARATH
SDGF MOUSE
RIM ARATH
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wth_factorfactor; 1factor; Glycop family. BY SIMILARITY. VASCULAR ENDOTH BY SIMILARITY.	This SWISS-PROT entry is copyright. It is predetive the Swiss Institute of Bioinformatic the European Bioinformatics Institute. There is a longuage by non-profit institutions as longuage modified and this statement is not removed. entities requires a license agreement (See hor send an email to license@isb-sib.ch).		eed) sequence update) annotation update) n factor A precursor ta; Craniata; Verteb	ALIGNMENTS PRT; 146 AA	HETT CHICK H11 VOLCA YEFZ YEAST PPO VITVI YOSE CAEEL ADZ8 MACFA PLGF BOVIN H1E STRPU PLGF HUMAN BARI CHIPA INTZ ECOLI PPO_SPIOL
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SEQUENCE
                                                                                                                                                                                                                                                                                                                      "The mouse gene for vascular endothelial growth factor. Genomic structure, definition of the transcriptional unit, and characterization of transcriptional and post-transcriptional regularrory services."
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Vascular endothelial growth factor a permeability.
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                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=96216498; PubMed=8632007; Shima D.T., Kuroki M., Deutsch U.,
                                                                                                                                                                                                                                                                                                                                                                                                                   differentiation and activated second messenger pathways.";
J. Biol. Chem. 267:16317-16322(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (ISOPORM VEGF-1).
MEDLINE-92355593; PubMed-1644816;
Claffey K.P., Wilkison W.O., Spiegelman B.M.;
"Vascular endothelial growth factor Regulati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Breier G., Albrecht U., Sterrer S., Risau W.; "Expression of vascular endothelial growth factor during embryonic angiogenesis and endothelial cell differentiation.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. (ISOFORMS VEGF MEDLINE=92274860; PubMed=1592003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
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01-OCT-1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VEGF OR VEGFA
                                                                                                                                                                                                                                                                                                            regulatory sequences."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Development 114:521-532(1992).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                   Biol.
                                          Name=VEGF-3; Synonyms=VEGF188;
IsoId=Q00731-1; Sequence=Displayed;
Name=VEGF-1; Synonyms=VEGF164;
IsoId=Q00731-2; Sequence=VSP 004626,
Name=VEGF-2; Synonyms=VEGF120;
                                                                                                                                                                        heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PIGF (By similarity).
                                                                                                                                                                                                                     Biol. Chem. 271:3877-3883 (1996).

FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
                                                                                                                                                                 SUBCELLULAR LOCATION: VEGF-1 and VEGF-2 are secreted while VEGF-3
                                                                                                                                  remains cell-surface associated unless released ALTERNATIVE PRODUCTS:
                                                                                                                      Event=Alternative splicing; Named isoforms=3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    127
IsoId=Q00731-3; Sequence=VSP_004628;
SSUE SPECIFICITY: In developing embryos, expres
poroid plexus, paraventricular neuroepithelium,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16;
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86
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146 AA;
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(Rel. 34, Last sec
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129
76
85
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INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POT
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Pred. No. 2e-07;
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   expressed mainly in elium, placenta and
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                                                                                                                                                   by heparin
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RESULT 3

VEGA RAT

ID VEGA RAT

AC P16612; Q9UKX7; Q9QXG6; Q9QXG7;

DT 01-AUG-1990 (Rel. 15, Created)

DT 28-FEB-2003 (Rel. 41, Last sequence update)

DT 28-FEB-2003 (Rel. 41, Last annotation update)

DT 28-FEB-2003 (Rel. 41, Last annotation update)

DE Vascular endothelial growth factor A precursor

DE permeability factor) (VPF).
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                           CONFLICT
SEQUENCE
Eukaryota; Mětazoa; Chordata; Mammalia; Eutheria; Rodentia; NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
Heparin-binding; Alternative splicing; Multigene family.
SIGNAL 26 BY SIMILARITY.
CHAIN 27 214 VASCULAR ENDOTHELIAL GROWTH FACTOR
DISULFID 51 93 BY SIMILARITY.
DISULFID 82 127 BY SIMILARITY.
DISULFID 86 129 BY SIMILARITY.
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                                                          Rattus norvegicus (Rat)
                                                                                                                                                                                                                                                                                                                                                                                                                        VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
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PIR; B44881;
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EMBL; S38083; AAB22253.1; -.
EMBL; S38100; AAB22254.1; -.
EMBL; M95200; AAA40547.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produce between the Swiss Institute of Bioinformatics
                                                                          VEGF OR VEGFA.
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PROSITE; PS50278; PDGF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MGD; MGI:103178; Vegfa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   kidney glomeruli. Also found in bronchial epithelium, adrenal gland and in seminiferous tubules of testis. High expression of VEGF continues in kidney glomeruli and choroid plexus in adults. DOMAIN: VEGF-3 contains a basic insert which acts as a cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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                                                                                                                                                                                                                                                         CECRPKKDRTKPEK 140
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Pred. No.
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Missing (in isoform VEGF-1)
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (PROBABLE).
                           Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
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E -> ER (IN REF.
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9.2e-05;
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                                                                                                       (VEGF-A) (Vascular
                                                                                                                                                                                                                                                                                                                                              Length 214;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and the
                                                                                                                                                                                                                                                                                                                    Indels
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EMBL; AF215725; AAF19211.1; -.
EMBL; AF215726; AAF19212.1; -.
EMBL; AF222779; AAF25958.1; -.
HSSP; P15692; 1VPP.
InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DiSalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G., Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.; "Purification and characterization of a naturally occurring vascular endothelial growth factor placenta growth factor heterodimer."; J. Biol. Chem. 270:7717-7723(1995).

-!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conn G., Bayne M.L., Soderman D.D., Kwok P.W., Sullivan I
Palisi T.M., Hope D.A., Thomas K.A.;
"Amino acid and cDNA sequences of a vascular endothelial
that is homologous to platelet-derived growth factor.";
Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
                                                                                                                                                                                                                                                                                                                                                    EMBL; M32167; AAA41211.1; -.
EMBL; AF215725; AAF19211.1;
EMBL; AF215726; AAF19212.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for content is requires a license agreement (See http://www.isb-sib.ch/arentities requires a license agreement a licen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (ISOFORM VEGF-A164), AND SEQUENCE OF 27-190 MEDLINE=90207249; PubMed=2320579;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=95221439; PubMed=7706320;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE OF 27-40
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ISOId=P16612-4; Sequence-VSP 004631; TISSUE SPECIFICITY: Expressed in the pituitary, in brain, in particularly in supraoptic and paraventricular nuclei and the choroid plexus. Also found abundantly in the corpus luteum of ovary and in kidney glomeruli.
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Name=VEGF-A144;
IsoId=P16612-3; Sequence=VSP_004632;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 although a signicant proportion remains cell-associated, most is freely secreted. VEGF-A188 is very basic; it is cell-associated after secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a soluble form by heparin, heparinase or plasmin (By similarity). ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         with PlGF (By similarity).
SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Name=VEGF-A120;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Name=VEGF-A188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Event=Alternative splicing; Named isoforms=4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   heparin (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VEGF-A164 is more basic, has heparin-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SWISS-PROT entry is copyright. It is produced through en the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IsoId=P16612-2; Sequence=VSP_004629, VSP_004630
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MBL outstation -
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Matches 14
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SIGNAL 1
CHAIN 27
DISULFID 51
DISULFID 82
DISULFID 86
DISULFID 76
DISULFID 76
DISULFID 76
CARBOHYD 100
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Mitogen;
  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MESAU
                                                                                                                                                                                                                                                                           (Mesocricetus auratus).",

Cell Tissue Res. 296:339-349(1999).

1- FUNCTION: Growth factor active in angiogenesis, vasculogenes endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, induces permeabilization of blood vessels. It binds to the VEGFR1/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-Decidua, and Embryo;
MEDLINE=99311285; PubMed=10382276;
Yi X.J., Jiang H.Y., Lee K.K., Tang P.L.,
"Expression of vascular endothelial growt!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A)
permeability factor) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q99PS1;
28-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                            receptors during embryonic implantation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mesocricetus auratus (Golden hamster)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VEGA MESAU
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ween the Swiss Institute of Bioinf
European Bioinformatics Institute.
by non-profit institutions as 1
                                                                                                                                                                                                          heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found with PIGF (By similarity).
                                                                                                                   SIMILARITY: BELONGS
                                                                                                                                                              SUBCELLULAR LOCATION: Secreted but
to the extracellular matrix unless
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              127
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PS50278; PDGF 2; 1.
Augiogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CECRPKKDRTKPEK 140
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214 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chordata; Craniata; Vertebrata; Euteleostomi; Rodentia; Sciurognathi; Muridae; Cricetinae;
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                                                                                                                   TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 83; DB; Pred. No. 9.2
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Missing (in isofc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VASCULAR ENDOTHELIAL GROWTH FACTOR A. BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
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/FTId=VSP_004631.
Missing (In isoform VEGF-A144)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-LINKED
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V -> A (IN REF. 2;
60FBB876F5304946
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                                                                                                                                                              remains associated to cells released by heparin (By
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chow P.H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                         factor (VEGF) and the golden hamster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 214;
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CRC64;
                                                                                                                                                                                                                                                                                  heparan sulfate and
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                                                                                                                                                                                                                                                                                                                                                                        vasculogenesis and
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Matches 18
                                                                                                                                                                                                                                                                                                                                 VI-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPF).
Sus sorre
                                                                                                                                                                                                                                                                                                                                                                                                       VEGA PIG
P49151; Q9GL
01-FEB-1996
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DISULFID
                                                                                                                            SEQUENCE FROM N.A. Lee T., Canty J.M.; "PCR cloning of porcine cardiac vascular endothelial growth
                                                                                                                                                                                             Sharma H.S., Tang Z.H., Gho B.C.H., "Nucleotide sequence and expression endothelial growth factor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Heparin-binding; Multigene SIGNAL 1 26 CHAIN 27 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE;
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SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000072; PD_growth_factor
Pfam; PF00341; PDGF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                        Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                        MEDLINE=95143284; PubMed=7841203; Sharma H.S., Tang Z.H., Gho B.C.H
                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                              Sus scrofa
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                                    FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFRZ/Kdr receptors and to heparan sulfate and
              heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  187
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PS50278; PDGF 2; 1.
Angiogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                   Biophys. Acta 1260:235-238(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CECRPKKVRTKPENHCEPCSERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCD
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  (By similarity)
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Cetartiodactyla; Suina; Suidae;
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28.1%;
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BY SIMILARITY
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Pred.
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INTERCHAIN (BY SIMILARITY)
N-LINKED (GLCNAC. . .) (PC
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BY SIMILARITY.
BY SIMILARITY.
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                Also
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                found
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              as
              heterodimer
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DISULFID
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CARBOHYD
CONFLICT
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Q9MYV3; Q9XSF3; Q9XSF4; Q9XSF5;
28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precurso
                      Biol.
                                                                                                                          Canis familiaris (Dog).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata,
Mammalia, Eutheria, Carnivora, Fissipedia, Canidae,
                                                                                                                                                                           permeability factor) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; X81380; CAA57143.1; -.
EMBL; AF318502; AAG33064.1;
PIR; S52130; S52130.
                                                         Scheidegger P., Weiglhofer W., Suarez S., Ballmer-Hofer K., Jaussi R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Heparin-binding; SIGNAL 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entities requires a license agreement (or send an email to license@isb-sib.ch)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
SEQUENCE FROM N.A.
                                 bearing
                                                                                MEDLINE=20125516; PubMed=10661874;
                                                                                             SEQUENCE FROM N.A. (ISOFORM VEGF-188)
                                                                                                                                                                  VEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       between the Swiss Institute of Bioinf
the European Bioinformatics Institute
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                                                                                                                    NCBI_TaxID=9615;
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                                               'Vascular endothelial
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              to the extracellular matrix unless released by heparin
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                                   dogs.";
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                       380:1449-1454(1999)
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(ISOFORMS VEGF-188; VEGF-182 AND VEGF-164).
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25.0%;
                                              growth factor
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTH
T -> A (IN REF. 2).
                                                                                                                                                                                                                                                                                                                                                                                                                         Score 69; DB 1;
Pred. No. 0.0071;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VASCULAR
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                                               (VEGF)
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                                                                      Kaser-Hotz B.,
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                                                                       Steiner R.,
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SMART; SM00141; PDGF; 1.

PROSITE; PS00249; PDGF 1; 1.

PROSITE; PS50278; PDGF 2; 1.

Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
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                                                                                                                                                                                                                                                                         VARSPLIC
                                                                                                                                                                                                                                                                                                                       VARSPLIC
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                                                                                                                                                                                                                                                                                                                                                                   VARSPLIC
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Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 heparin (By similarity).
SUBUNIT: Homodimer, disulfide-linked. Also found as heterodimer with PIGF (By similarity).
SUBCELLULAR LOCATION: Secreted but remains associated to cells to the extracellular matrix unless released by heparin (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IsoId=Q9MYV3-3; Sequence=VSP 004615, VSP 004616; SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Name=VEGF-164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name=VEGF-182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Name=VEGF-188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Event=Alternative splicing; Named isoforms=3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AJ133758; CAB82426.1; -. AF133250; AAD29684.1; -. AF133249; AAD29683.1; -. AF133248; AAD29682.1; -.
127
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IsoId=Q9MYV3-2; Sequence=VSP_004617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IsoId=Q9MYV3-1; Sequence=Displayed;
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                                                                                                               Similarity
                                         CECRPKKDRTKPEK 14
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214
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                                                                                         Conservative
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78.6%;
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POTENTIAL.

VASCULAR ENDOTHELIAL GROWTH FACTOR
BY SIMILARITY.
                                                                                                            Score 67;
Pred. No.
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/FTId=VSP_
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTEN
K -> N (in isoform VEGF-164).
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Missing (in isoform VEGF-164).
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                                                                                      Mismatches
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S (\overline{\text{IN}} REF. 2).
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D1 28-7

D1 18-8

D2 Vaga

RV Vaga

                                                                                                                                                                                                                                                                                binds to J. Biol. [7]
                                                                                  Lei J., Jiang A., Pei D.;
"Identification and characterization of a new vascular endothelial growth factor: VEGF183.";
"Identification and characterization of a new vascular endothelial growth factor: VEGF183.";
                          SEQUENCE FROM
TISSUE=Breast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. (ISOFORM VEGF189).

MEDLINE=91268072; PubMed=1711045;

Tischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D.,

Piddes J.C., Abraham J.A.;

"The human gene for vascular endothelial growth factor. Multiple
protein forms are encoded through alternative exon splicing.";

J. Biol. Chem. 266:11947-11954(1991).
                                                                                                                                                                                                                                TISSUE=Kidney;
                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. (ISOFORM VEGF183).
                                                                                                                                                                                                                                                                                                                                     "VEGF145, a secreted vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=97207275; PubMed=9054410; Poltorak Z., Cohen T., Sivan R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. (ISOFORM VEGF145).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Biochem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "AIDS-associated Kaposi's sarcoma cells in culture endothelial growth factor.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. (ISOFORM VEGF165).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of RNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Houck K.A., Ferrara N., Winer J., Cachianes G., "The vascular endothelial growth factor family: fourth molecular species and characterization of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mitogen."
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Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara
"Vascular endothelial growth factor is a secreted angiogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bukaryota; Metazoa; Chordata; Craniata; v
Mammalia; Eutheria; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-APR-1990 (Rel. 14, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPF).
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P15692; 060720;
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                                                                                                                                                                                                      MEDLINE=99096474;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Vascular permeability factor, an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          iomo sapiens
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                                                  FROM N.A. (ISOFORM VEGF165)
                                                                                                                                                                                                                                                                                                                                  extracellular matrix.
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S.D., Krivi G.,
  PubMed=9450968;
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                                                                                                                                                                                                         PubMed=9878851;
                                                                                                                                                                                                                                                                                                                                                                                                       T., Sivan R., Kandelis Y.,
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                                                                                                                                                      a new splicing variant
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                                                                                                                                                                                                                                                                                                                                                        growth factor isoform that
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Sato
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              Muller Y.A., "The crystal
                                                                                                                                                                                                                Kochs G., Marme D., Hug H., Weich H.A.; "Synthesis and assembly of functionally endothelial growth factor homodimers in
                                                                                                                                                                                                                                                                                                                                                          MEDLINE=90062112; PubMed=2584205; Connolly D.T., Olander J.V., Heuvelman D.,
                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 23-232 FROM N.A. (VEGF165).
Rieder M.J., Armel T.Z., Carrington D.A.;
Poel C.L., Toth E.J., Yi Q., Nickerson D.A.;
Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and receptor mRNA expression in huidentification of VEGF148 mRNA, a Clin. Sci. 97:303-312(1999).
                                           MEDLINE=98035455; PubMed=9351807;
                                                                                                                                                            MEDLINE=97352774; PubMed=9207067
                                                                                                                                                                         X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS)
                                                                                                                                                                                                                                               SEQUENCE OF 2....
MEDLINE=93145946; PubMed=7678805;
MEDLINE=93145946; PubMed=7678805;
Meindel K.,
                                                                                                                                                                                                                                                                                      SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted
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MEDLINE=99394945; PubMed=10464055;
Whittle C.J., Gillespie K.M., Harr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Hemangioendothelioma;
Murata H., Fukushima J., Hat
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 114-209
                                                        X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS)
                                                                                                                               de Vos A.M.;
                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY SEQUENCE OF 27-36; 43-50 AND 59-81.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Human cDNA for the vascular endothelial growth factor isoform {\tt VEGF165."};
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=99165303;
                                                                                                                                                                                                                                                                                                                 Siegel N., Haymore B.L., Leimgruber R., Feder i "Human vascular permeability factor. Isolation J. Biol. Chem. 264:20017-20024(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Williams
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (ISOFORM VEGF121).
Sato J.D., Whitney R.G.;
"Human cDNA for vascular endothelial growth fa"Human cDNA for vascular endothelial growth fa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Heterogeneous vascular endothelial growth factor and receptor mRNA expression in human glomeruli, a jentification of VEGF148 mRNA, a novel truncated
                                                                                                                  Vascular endothelial
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              Christinger I
structure of
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                                                                                      Sci.
 resolution: multiple
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                                                                                                                                             Christinger H.W.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          to the
                                                                                   growth factor: crystal structure domain receptor binding site."; U.S.A. 94:7192-7197(1997).
             H.W., Keyt B.A., de Vos A.M.;
f vascular endothelial growth
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insect cells
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 flexibility and
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                                                                                                                                           Cunningham B.C.
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                                                                                                                                                                                                                                                                                                                               U937 cells.";
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                factor (VEGF)
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RESULT 8
VEGA_BOVIN
ID VEGA_BOVIN
AC P15691;
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Vascular endothelial growth factor induces cyclooxygenase-dependent proliferation of endothelial cells via the VEGF-2 receptor."; FASEB J. 15:1667-1669(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Solution structure of the heparin-binding domain of vascular endothelial growth factor.";
Structure 6:637-648(1998).
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Fairbrother W.J., Keenan C.J., Meng G., de Vos
"Crysta" structure of the complex between VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         +
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "1H, 13C, and 15N backbone assignment and secondary structure receptor-binding domain of vascular endothelial growth factor. Protein Sci. 6:2250-2260(1997).
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Starovasnik M.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRUCTURE BY NMR OF 34-135.
MEDLINE=97477915; PubMed=9336848;
Fairbrother W.J., Champe M.A., Ch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Murphy J.F., Fitzgerald D.J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=21320570;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=98298440;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    peptide."
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS)
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                                                                                                                                                                                                           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibite apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin. Neuropilin-1 binds isoforms VEGF-165 and VEGF-145. SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PIGF (By similarity).
                                                                                                                                                                                                                                                                                                                                                                   SUBCELLULAR LOCATION: VEGF121 is acidic and freely secreted. VEGF165 is more basic, has heparin-binding properties and, although a signicant proportion remains cell-associated, most freely secreted. VEGF189 is very basic; it is cell-associated after secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a soluble form by heparin, heparinase or plasmin.
                                                                                                                                                                                                                                                                Name=VEGF189;
                                                                                                                                                                                                                                                                                              Name=VEGF206;
                                                                                                                                                                                                                                                                                                                           Event=Alternative splicing; Named isoforms=7; Comment=Experimental confirmation may be la
                                                                                                                                                                                                                                                                                                                                                      ALTERNATIVE PRODUCTS
                                                                                                                                  128
                                                                                                                                                                                                                                                                                                              isotorms
                                                                                                                                                                                                                                                    IsoId=P15692-2;
                                                                                                                                                                                                                                                                                 IsoId=P15692-1;
                                                                                                                                                                                                                                                                                                                         Comment=Experimental
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                                                                                                                                                                                                           Similarity
                                                                                                                                  CECRPKKDRARQEK 141
                                                                                                                                                            CECRPKKDRTKPEK 14
                                                                                                                                                                                           Conservative
                                                          STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PubMed=11427521;
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Champe M.A., Christinger H.W.,
                                                                                                                                                                                                       55.8%;
78.6%;
                                                                                                                                                                                                                                                 Sequence=VSP_004622;
                                                                                                                                                                                                                                                                                Sequence=Displayed;
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                                                                                                                                                                                                         Score 67; DB 1;
Pred. No. 0.016;
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                                                                                                                                                                                             Mismatches
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MEDLINE=89286596; PubMed=2735925;
Ferrara N., Henzel W.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIINE=90121225; PubMed=2610687; Tischer E., Gospodarowicz D., Mitchell R., Silva M., Schilling J., Lau K., Crisp T., Fiddes J.C., Abraham J.A.; Type endothelial growth factor: a new member of the platelet-derived growth factor gene family."; Biochem. Biophys. Res. Commun. 165:1198-1206(1989).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Ch
Mammalia; Eutheria; Ce
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
VEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                                   EMBL; M32976; AAA30502.1; -.
EMBL; M31836; AAA30804.1; -.
EMBL; M33750; AAA30805.1; -.
EMBL; M3080; B40080.
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Heparin-binding; Alternative splicing; Multigene family.
SIGNAL 1 26
CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH
DISULFID 51 93 BY SIMILARITY.
                                                                                                                  PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Picuitary follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells.";
Biochem. Biophys. Res. Commun. 161:851-858(1989).
-i-FUNCTION: Growth factor active in anglogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
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                                                                                                                                                                                                             ProDom; PD001629; PD growth factor; SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                    InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IsoId=P15691-2; Sequence=VSP_004613, VSP_004614; SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PIGF (By similarity).
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VASCULAR ENDOTHELIAL GROWTH FACTOR BY SIMILARITY.
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RESULT 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Miura N., Misumi K., Kawahara K., Nakashima M., Fukumitsu S., Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.; "Cloning of cDNA and high-level expression of equine vascular endotherial growth factor (VEGF)."; Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.

-I- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth. Induces endothelial proliferation and vascular permeability (By similarity).
                                                                                                                                                                                                                                                              the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed entities requires a license agreement (See or send an email to license@isb-sib.ch).
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PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
Mitogen; Angiogenesis; Growth factor; Glycoprotein;
Multigene family.
                                                                                               ProDom; PD001629; PD growth factor; 1. SMART; SM00141; PDGF; 1.
                                                                                                                                                                                             EMBL; AB053350; BAB20890.1; -. HSSP; P15692; 1VGH.
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Equus caballus (Horse).

Fire ryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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                                                                                                                                                  Pfam; PF00341; PDGF; 1
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28-FEB-2003 (Rel.
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SUBCELLULAR LOCATION: Secreted but
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                                                                                                                                                            IPR000072; PD_growth_factor.
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(Rel. 41, Last sequence update)
(Rel. 41, Last annotation update)
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                                                                                                                                                                                                                                                                                          . Usage by and for commercial http://www.isb-sib.ch/announce/
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                                                                                                                                                                                                                                                                                           use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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HSSP; P15692; IVGH.
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                                                                                                                                               ProDom; PD001629; PD_growth_factor; SMART; SM00141; PDGF; 1.
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Pfam; PF00341; PDGF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mitted (JAN-1992) to the EMBL/GenBank/DDBJ databases. FUNCTION: Growth factor active in angiogenesis, and cell growth. Induces endothelial proliferation and v permeability (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as with PIGF (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUBCELLULAR LOCATION: Secreted but
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            to the extracellular matrix unless released by
                                                                                                                                                                                                                                                                                                                                                                                                      SWISS-PROT entry is copyright. It is produced through sen the Swiss Institute of Bioinformatics and the EN
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; PS00249; PDGF 1; 1.
; PS50278; PDGF 2; 1.
; Angiogenesis; Growth £
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(Rel. 23, Last sequence update)
(Rel. 41, Last annotation updat
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Hystricognathi; Caviidae; Cavia.
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   RA Bargues M., Baron L., Becker A., Biteau N., Bultrago M.J., Coster F., RA Boskovic J., Brandt P., Brueckner M., Bultrago M.J., Coster F., RA Boskovic J., Brandt P., Brueckner M., Bultrago M.J., Coster F., RA Boskovic J., Brandt P., Dujon B., Bide L.G., Garcia-Cantalejo J.M., RA Delaveau T., del Rey F., Dujon B., Bide L.G., Garcia-Cantalejo J.M., RA Delaveau T., del Rey F., Dujon B., Bide L.G., Garcia-Cantalejo J.M., RA Delaveau T., del Rey F., Dujon B., Bide L.G., Garcia-Cantalejo J.M., RA Goffeau A., Gomez-Peris A., Granotier C., Hannmann V., Hankeln T., RA Kuester H., Laamanen P., Legros Y., Louis B.J., Moeller-Rieker S., RA Kuester H., Laamanen P., Legros Y., Louis B.J., Moeller R., Kraemer C., RA Monnet A., Moro M., Weller-Auer S., Nussbaumer B., Paricio N., RA Paulin L., Perea J., Perez-Alonso M., Perez-Ortin J.E., Pohl T.M., RA Paulin L., Perea J., Perez-Alonso M., Perez-Ortin J.E., Pohl T.M., RA RA Fieger M., Schmeidt E.R., Schneider C., Scholler P., Schwarz S., RA Rieger M., Schmidt E.R., Schneider C., Scholler P., Schwarz S., RA Wagner G., Wambutt R., Wedler E., Wedler H., Woelfl S., Harris D.E., RA Wagner G., Wambutt R., Wedler E., Wedler H., Woelfl S., Harris D.E., RA Wagner G., Wambutt R., Wedler E., Wedler H., Woelfl S., Harris D.E., RA Walsh S.V., Barrell B.G., Dietrich F.S., Multigan J.T., Allen E., RA Walsh S.V., Barrell B.G., Dietrich F.S., Multigan J.T., Allen E., RA Araujo R., Aviles E., Berno A., Carpenter J., Chen B., Cherry J.M., RA Lashkari D., Lew H., Lin D., Mosedale D., Nakahara K., Namath A., RA Lashkari D., Lew H., Lin D., Mosedale D., Nakahara K., Namath A., RA Lashkari D., Shroff N., Winant A., Yelton M.A., Botstein D., Schroeder M., RA Hawkins J., Hiller L., Jier M., Johnson D., Johnston L., Kirsten J., RA Raykins J., Hiller L., Jier M., Johnson D., Johnston L., Kirsten J., RA Kucaba T., Langston Y., Latreille P., Le T., Mardis E., Menzee S., RA Miller N., Mahara K., Pauley A., Peluso D., Rifkin L., Riles L., Rai Raykins J., Markai B., Markai B., Markai B., Markai B., Markai B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        dihydrolipoyl transsuccinylase."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Structure and regulat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Saccharomyces cerevisiae (Baker's yeast).
Eukaryota, Fungi, Ascomycota, Saccharomycotina, Saccharomycetes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dihydrolipoamide succinyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-NOV-1990 (Rel.
01-FEB-1996 (Rel.
15-SEP-2003 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YEAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Jacq C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PubMed=9169867;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=S288C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mol. Cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=90318388; PubMed=2115121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=4932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Saccharomycetales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dehydrogenase complex, mitochondrial KGD2 OR YDR148C OR YD8358.05C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P19262;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KPRR 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biol. 10:4221-4232(1990).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            regulation of KGD2, the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16, Created)33, Last sequence update)42, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Saccharomycetaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             59 I
74 N
19330 MW;
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21.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 62; DB 1;
Pred. No. 0.057;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-LINKED (GLCNAC. . .) (P
; 9EB86A81A9D5DCA4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INTERCHAIN (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Arnold W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 precursor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            structural gene for yeast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of 2-oxoglutarate (EC 2.3.1.61) (E2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ballesta J.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        44;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
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VEGA
AC
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                                                                   RESULT 12
                                                                                                                                                               Query Match
Best Local S
Matches
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EMBL; Z50046; CAA90371.1; -.
PIR; S57975; XUBYSD.
HSSP; P07016; IEZO.
SGD; S0002555; KGD2.
GO; GO:0005759; C:mitochondrial matrix; NAS.
InterPro; IPR001078; Z0xoacid dh.
InterPro; IPR001089; Biotin lipoyl.
InterPro; IPR003016; Lipoyl.
InterPro; IPR003016; Lipoyl.
InterPro; IPR00525; SucB.
Pfam; PF00198; 2-oxoacid_dh; 1.
Pfam; PF00198; 2-oxoacid_dh; 1.
Pfam; PF00364; biotin lipoyl; 1.
Pfam; PF00374; Biotin lipoyl; 1.
TIGRFAM8; TIGR01347; BucB; 1.
 "VEGA CHICK S
P52582; Q91420;
01-OCT-1996 (Rel
15-JUL-1998 (Rel
                                                                                                                                                                                                                   CONFLICT
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                     BINDING
ACT_SITE
ACT_SITE
CONFLICT
                                                      CHICK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Ewthe European Bioinformatics Institute. There are no restrues by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entitles requires a license agreement (See http://www.isb-sorsend an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE; PS00189; LIPOYL; 1.
Tricarboxylic acid cycle; Transferase; Acyltransferase; Lipoyl;
Mitochondrion; Transit peptide; Repeat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nature
                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OVERALL CONVERSION OF 2-OXOGLUTARATE TO SUCCINYL-COA & CO(2). IT CONTAINS MULTIPLE COPIES OF 3 ENZYMATIC COMPONENTS: 2-OXOGLUTARATE DEHYDROGENASE (E1), DIHYDROLIPOAMIDE SUCCINYLTRANSFERASE (E2) & LIPOAMIDE DEHYDROGENASE (E3).

CATALYTIC ACTIVITY: Succinyl-Coa + dihydrolipoamide = Coa + S-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: Contains 1 lipoyl-binding domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               succinyldihydrolipoamide. COFACTOR: THE E2 COMPONENT CONTAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INDUCTION: TRANSCRIPTIONALLY REGULATED BY THE HAP2 AND HAP3 PROTEINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUBCELLULAR LOCATION: Mitochondrial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PATHWAY: Tricarboxylic acid cycle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FUNCTION: THE 2-OXOGLU OVERALL CONVERSION OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nucleotide sequence of Saccharomyces cerevisiae chromosome IV.", re 387:75-78\,(1997) .
                                                                                                             195
                                                                                                                                     N
                                                                                                                                                                Similarity
9; Conser
                                                                                                            EAAPKKEVTEPKKADQPKK 213
                                                                                                                                     ECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                                                                                 441
460
463
(Rel. 34, Created)
(Rel. 36, Last sequence update)
                                                                                                                                                                                                                                                                                        185
114
435
439
                                                                                                                                                                Conservative
                                                                                                                                                                                                                    A
A
                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BELONGS TO THE 2-OXOACID DEHYDROGENASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2-OXOGLUTARATE DEHYDROGENASE COMPLEX CATALYZES THE
                                                                                                                                                                                                                   445
463
50430
                                                                                                                                                                                                                                                                                       209
114
435
439
208
                                                                                                                                                                         47.5%;
                                                                                                                                                                                                                    MW;
                                                                                                                                                                6
                                                                                                                                                            Pred. No. U.8
5; Mismatches
                                                                                                                                                                                        Score 57;
                                                                                                                                                                                                                                                          -> HRKVSPQGKTQVRKRLQRKKLLQRKKPLQRKKLQNQ
KRT (IN REF. 1).
                                                                                                                                                                                                                                                                                                   BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                           4 X 6 AA APPROXIMATE
                                                                                                                                                                                                                                                                                                                                                                    DIHYDROLIPOAMIDE SUCCINYLTRA
COMPONENT OF 2-OXOGLUTARATE
                                                                                                                                                                                                                                 MLLW ->
                                                                                                                                                                                                                                                REAVT
                                                                                                                                                                                                                                                                                                                                                         COMPLEX
                                                                                                                                                                                                                                                                                       PSQGVAARENSSEETASKKEAAPKKEAAPKKEVTEPKKA
                                                                                                                                                                                                                                                                                                                              LIPOYL (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                               MITOCHONDRION
                                          PRT;
                                                                                                                                                                                                                    CO6FEB1DE385AE19 CRC64;
                                                                                                                                                                                                                                              ţ
                                                                                                                                                                           No.
                                                                                                                                                                                                                                > EKLLS (IN REF. 1).
CCYGDLKFAAHTNLIS (1
                                          216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     moved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
                                                                                                                                                                           0.8;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COVALENTLY-BOUND LIPOYL
                                                                                                                                                                                                                                                                                                                                                                                  SUCCINYLTRANSFERASE
                                                                                                                                                                                        Length 463;
                                                                                                                                                                                                                                                                                                                                           TANDEM REPEATS
                                                                                                                                                                                                                                (IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL
                                                                                                                                                                                                                                                                                                                                                                     DEHYDROGENASE
                                                                                                                                                                                                                                  REF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a collaboration
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                                                                                                                                                            Gaps
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WEGF OK VENERAL (Chicken), and Gallus gallus (Chicken), and Coturnix coturnix japonica (Japanese quail).
Coturnix coturnix japonica (Japanese quail).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordata; Galliformes; Phasianidae; Phasiani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dev. Biol. 169:699-712(1995).

-!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).

-!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
EMBL; AB011078; BAA24925.1; EMBL; S79680; AAB35371.1; -
                                                   modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                  This
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Plamme I., Breier G., Risau W.;
"Vascular endothelial growth factor (VEGF) and VEGF receptor (flk-1) are expressed during vasculogenesis and vascular differentiation in the quail embryo.";
Dev. Biol. 169:699-712 (1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Flamme I., von Reutern M., Drexler H.C., Syed-Ali S., Risau W.; "Overexpression of vascular endothelial growth factor in the avian embryo induces hypervascularization and increased vascular permeability without alterations of embryonic pattern formation.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. SPECIES=C.c.japonio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Takahashi T.;
"Chick embryonic ventricular myocytes VEGF.";
Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                               the European Bioinformatics Institute. There are no restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SPECIES=C.c.japonica; TISSUE=Embr
MEDLINE=96005007; PubMed=7556923;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
SPECIES=Chicken; TISSUE=Heart;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 permeability factor)
VEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precurso
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SPECIES=C.c.japonica;
MEDLINE=95301109; Pub
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE OF 60-187 FROM N.A. (ISOFORMS VEGF-190 AND VEGF-166).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9031, 93934;
                                                                                                                                                                                                                                                                            Note-Has been shown to exist only in quall so far;
NOTE-Has been shown to exist only in qually expressed in h
TISSUE SPECIFICITY: Abundantly and equally expressed in h
liver. In kidney glomeruli, brain and yolk sac, VEGF-166
10-times more abundant than VEGF-190
DEVELOPMENTAL STAGE: VEGF-166 is expressed early at day 1
upgraded during gastrulation. Expression of VEGF-190 is d
                                                                                                                                                                                                        SIMILARITY: BELONGS TO THE PDGF/VEGF PAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                             DOMAIN: VEGF-190 contains a basic insert which
                                                                                                                                                                                                                                                               upgraded during gastrulation. only from day 2.
                                                                                                                                                                                                                                                                                                                                                                                                                  Name=VEGF-146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALTERNATIVE PRODUCTS:
Event=Alternative splicing; Named isoforms=3;
Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Name=VEGF-166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Name=VEGF-190;
                                                                                                                                                                                                                           retention signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      with PIGF (By similarity).
                                                                                                                                               SWISS-PROT entry is copyright. It is produced through a dean the Swiss Institute of Bioinformatics and the EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                   Note=Has been shown
                                                                                                                                                                                                                                                                                                                                                                                                                                 IsoId=P52582-2; Sequence=VSP_004633, Note=Has been shown to exist only in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IsoId=P52582-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                IsoId=P52582-3; Sequence=VSP_004635,
                                                                                                             non-profit institutions as long
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFORMS VEGF-190; VEGF-166 AND VEGF-146).
TISSÜE=Embryo;
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quail so fa
                                                                        http://www.isb-sib
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28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor B precursor
factor) (VRF)
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SIGNAL
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Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Growth factor for endothelial cells. VEGF-B167 bind
heparin and neuropilin-1 whereas the binding to neuropilin-1
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
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swArT; SM00141; pDGF; 1.
PROSITE; PS00249; pDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
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VEGF-BL86 is regulated by proteolysis SUBUNIT: Homodimer; disulfide-linked with vegf (By similarity).
SUBCELLULAR LOCATION: Secreted but rem
                                                                                                                                 to the extracellular matrix
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### PS00249; PDGF 1; 1.

### PS50278; PDGF 2; 1.

### PAS50278; PDGF 2; 1.

### Angiogenesis; Growth factor; Glycoprotein; Signal; Angiogenesis; Growth factor; Multigene family.

### BY SIMILARITY.

### PDGF; ...

### PDGF; ...

### PDGF; ...

### PDGF 2; 1.

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/FTId=VSP_004635.
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Missing (in isoform VEGF-166
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F -> L (in isoform VEGF-146)
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ProDoms; PD001629; PD growth factor;
SMART; SM00141; PDGF; 1.

PROSITE; PS00249; PDGF 1; 1.

PROSITE; PS50278; PDGF 2; 1.

Mitogen; Growth factor; Glycoproteir
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EMBL; AB004273; BAA77685.1; -.
EMBL; AR099134; AAG29746.1; -.
HSSP; P15692; 1VPP.
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SEQUENCE FROM N.A.
MEDLINE=90368768; PubMed=1975589;
Wuolteenaho R., Chow L.T., Tryggvason K.;
"Structure of the human laminin B1 chain gene.";
J. Biol. Chem. 265:15611-15616(1990).
                                                                                                                                                          Eukaryota; Metazoa;
Mammalia; Eutheria;
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InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
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                                                                                                                                  NCBI_TaxID=9606;
                                                                                                                                                                                                      Homo sapiens (Human)
                                                                                                                                                                                                                                LAMB1.
                                                                                                                                                                                                                                              Laminin beta-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=VEGF-B186;
IsoId=Q9XS49-1;
Name=VEGF-B167;
                                                                                                                                                                                                                                                                                                                                                                  HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CECRPKK--DRTKPEKCDKP 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CECRPKKRESAVKPDRASTP
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3 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             207 AA;
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137
                                                                                                                                                                                                                                                chain
                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                    08, Created)
08, Last sequence update)
42, Last annotation update)
43 of the procursor (Laminin B1 ch
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207
89
122
124
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Primates;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           45.8%;
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Multigene family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence=Displayed
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VASCULAR ENDOTHELIAL G
BY SIMILARITY.
BY SIMILARITY.
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/FTId=VSP_004638.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 55; I
Pred. No. 0.
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INTERCHAIN (BY SIMILARITY).
RASTPHHRPOPRSUPGUDPAPGAPSADITHPTPAPGPSAH
AAPSAASALTP -> SPRPLCPRCPQRRQRPDPRTCHCRCR
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                                                                                                                                                          Craniata; Vertebrata;
Catarrhini; Hominidae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FTId=VSP_004638.
646C82DA1BE17782 CRC64;
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0.67;
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[2]
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE=87280097; PubMed=3611077;
MEDLINE=87280097; PubMed=3611077;
MEDLINE=87280097; PubMed=3611077;
Milliam in in ., Eddy R., Fukushima Y., Byers M., Shows I.,
Pihlajaniemi T., Saraste M., Tryggvason K.;
"Human laminin B1 chain. A multidomain protein with gene (LAMB1)
locus in the q22 region of chromosome 7.";
J. Biol. Chem. 262:10454-10462(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 12,0 ....
MEDLINE=88021029; Pu
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Am. J. Hum. Genet. 41:605-615(1987).

In FUNCTION: Binding to cells via a high affinity receptor, laminin is thought to mediate the attachment, migration, and organization of cells into tissues during embryonic development by interacting with other extracellular matrix components.

SUBUNIT: Laminin is a complex glycoprotein, consisting of three different polypeptide chains (alpha, beta, gamma), which are bound to each other by disulfide bonds into a cross-shaped molecule comprising one long and three short arms with globules at each
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Jaye M.,
Drohan W.
  EMBT | EM
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THE BETA-1 CHAIN IS A SUBUNIT OF LAMININ-1 (EHS LAMI)

2 (WEROSIN), AND LAMININ-6 (K-LAMININ).

2 (WEROSIN), AND LAMININ-6 (K-LAMININ).

1- SUBCELLULAR LOCATION: Extracellular.

COMPONENT) EXTRACELLULAR IN THE BASEMENT MEMBRANES (COMPONENT).

1- DOMAIN: THE ALPHA-HELICAL DOMAINS I AND II ARE THOUGH WITH OTHER LAMININ CHAINS TO FORM A COILED COIL STRUCTURE DOMAIN: DOMAINS VI AND IV ARE GLOBULAR.

1- SUMILARITY: Contains 1 laminin N-terminal domain.

1- SIMILARITY: Contains 13 laminin EGF-like domains.

1- SIMILARITY: Contains 1 laminin IV domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <del>-</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     s SWISS-PROT entry is copyright. It is produced through a collaboratic ween the Swiss Institute of Bioinformatics and the EMBL outstation European Bioinformatics Institute. There are no restrictions on it
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M58147;
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and this statement is not removed
requires a license agreement (Sec
an email to license@isb-sib.ch).
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88021029; PubMed=3661559;
Modi W.S., Ricca G.A., M
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Usage
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                collaboration -
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Glycoprotein;
Laminin EGF-li
SIGNAL
CHAIN
DOMAIN 2:
DOMAIN 3:
DOMAIN 3:
DOMAIN 5:
DOMAIN 5:
DOMAIN 7
DOMAIN 7
DOMAIN 7
DOMAIN 8
DOMAIN 8
DOMAIN 8
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DOMAIN 9
DOMAIN 10
DOMAIN 10
DOMAIN 10
                                                                                                                                                                                                                                                                                 InterPro; IPR002049; LamInin EGF.
InterPro; IPR001886; LamNT.
Pfam; PP00053; Laminin EGF; 13.
Pfam; PP00055; Laminin Neerm; 1.
PRINTS; PR00011; EGFLAMININ:
SMART; SM00180; EGF Lam; 12.
SMART; SM00186; LamNT; 1.
PROSITE; PS00022; EGF 1; 9.
PROSITE; PS001186; EGF 2; 2.
PROSITE; PS01186; EGF 2; 2.
PROSITE; PS01186; EGF 2; 2.
PROSITE; PS01186; EGF 2; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; M61946; AAA59
EMBL; M61949; AAA59
EMBL; M61949; AAA59
EMBL; M61949; AAA59
EMBL; M61949; AAA59
EMBL; M65370; AAA59
EMBL; M55371; AAA59
EMBL; M55371; AAA59
EMBL; M55374; AAA59
EMBL; M55348; AAA59
EMBL; M55349; AAA59
EMBL; M55351; AAA59
EMBL; M55361; AAA59
                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro;
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                                                                                                                                                                                                                                                       EGF-like
                                                                                                                                                                                                                                                                                                                                                                                                                         IPR006209; EGF like.
IPR002049; Laminin_EGF.
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AAA59486
AAA59486
AAA59486
AAA59485
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      1786
270
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866
916
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1083
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    LAMININ
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LAMININ
LAMININ
                                                                                                                                                                                                                                                        adhesion;
                                                                                                                                                                                                                                                       Extracellular matrix; Coiled coil; nesion; Repeat; Signal; Polymorphism
    EGF-LIKE 1
EGF-LIKE 3
EGF-LIKE 4
EGF-LIKE 4
EGF-LIKE 6
EGF-LIKE 6
EGF-LIKE 7
EGF-LIKE 7
EGF-LIKE 7
EGF-LIKE 1
EGF-LIKE 1
                                                                                                                                                                                                         BETA-1 CHAIN.
N-TERMINAL (I
    7.
8.
10.
11.
12.
                                                                                                                                IJ
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RESULT 15
LMB1_MOUSE
ID LMB1_M
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Best Local &
Matches
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DOMAIN
DISULFID
                                                                                                                                                                                                                                                    P02469;
21-JUL-1986 (Rel. 01, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Laminin beta-1 chain precursor (Laminin B1 chain).
LAMBI-1 OR LAMB-1.
                                                                                    SEQUENCE FROM N.A.

MEDLINE=87147212; PubMed=3493487;

MEDLINE=87147212; PubMed=3493487;

Sasaki M., Kato S., Kohno K., Martin G.R., Yamada Y.;

Sasaki M., Kato S., Kohno K., Martin G.R., Yamada Y.;

"Sequence of the cDNA encoding the laminin B1 chain reveals multidomain protein containing cysteine-rich repeats.";

Proc. Natl. Acad. Sci. U.S.A. 84:935-939(1987).
                                                                                                                                                                                          Eukaryota, Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
NCBI TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
DOMAIN
SEQUENCE OF 1292-1786 FROM N.A. MEDLINE=85051302; PubMed=6209134; Barlow D.P., Green N.M., Kurkinen "Sequencing of laminin B chain cD coiled-coil alpha-helix.";
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                                                                                                                                                                                                                                            musculus (Mouse)
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842
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312
335
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428
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DOMAIN I.
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Pred.
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DOMAIN II.
                                                                                                                                                                                                              Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
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                 CDNAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
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                 reveals C-term
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                 C-terminal
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   InterPro; IPRO01886; LamNIT.

Pfam; PF00053; laminin EGF; 13.

Pfam; PF00055; laminin Nterm; 1.

PRINTS; PR00011; EGFILAMININ.

SMART; SM00180; EGF Lam; 11.

SMART; SM00136; LamNIT; 1.

PROSITE; PS00126; LamNIT; 1.

PROSITE; PS01186; EGF 1; 9.

PROSITE; PS01186; EGF 2; 2.

PROSITE; PS01248; LAMININ TYPE EGF; 11.

Glycoprotein; Basement membrane; Extracel.

Laminin EGF-like domain; Cell adhesion; R
Glycoprotein;
Laminin EGF-1i
SIGNAL 2
DOMAIN 27
DOMAIN 33
DOMAIN 45
DOMAIN 51
DOMAIN 77
DOMAIN 77
DOMAIN 82
DOMAIN 97
DOMAIN 97
DOMAIN 97
DOMAIN 97
DOMAIN 97
DOMAIN 97
DOMAIN 102
DOMAIN 102
DOMAIN 113
DOMAIN 113
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; M15525; AAA39407.1;
EMBL; X05212; CAA28839.1;
PIR; A26413; MMMSB1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 165-172; 539-547
STRAIN=BALB/c; TISSUE=Endothe
MEDLINE=97363207; PubMed=9219
                                                                                                                                                                                                                                                                                                                                                                                                                                                 MGD; MGI:96743; Lamb1-1.
InterPro; IPR006209; EGF like.
InterPro; IPR0022049; Laminin EGF.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eur. J. Biochem. 246:727-735(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Cloning of the mouse laminin alpha 4 cDNA. endothelium.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sorokin L.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Frieser M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THE BETA-1 CHAIN IS A SUBUNIT OF LAMININ-1 (EHS LAMI 2 (MEROSIN), AND LAMININ-6 (K-LAMININ).
SUBCELLULAR LOCATION: EXTRACEDILLIAR:
TISSUE SPECIFICITY: FOUND IN THE BASEMENT MEMBRANES COMPONENT).
SUMILARITY: Contains 1 laminin N-terminal domain.
SIMILARITY: Contains 1 laminin EGF-like domains.
SIMILARITY: Contains 1 laminin IV domain.
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1 CECRPKKDRTKPEKCDKPRR 20 : : 46 CECRPKKDKARQEKCDKPRR 65	Query Match 84.2%; Score 101; DB 6; Length 65; Best Local Similarity 80.0%; Pred. No. 6.4e-08; Matches 16; Conservative 2; Mismatches 2; Indels 0; Gaps 0;	SEQUENCE 65 AA; 7562 MW; BA3E5384364B05E3 CRC64;		PROSITE: PS50278: PDGF 2: 1.		Pfam; PF00341; PDGF; 1.	InterPro; IPR000072; PD_growth_factor.	EMBL; AY114353; AAM76674.1;	Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.	Corpora Lutea.";		"Changes of Messenger RNAs Encoding Vascular Endothelial Growth Factor	Kawate N., Tsuji M., Tamada H., Inaba T., Sawada T.;	TISSUE=Corpus luteum;	SEQUENCE FROM N.A.	[1]	NCBI_TaxID=9925;	Bovidae; Caprinae; Capra.	Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;		dothelial growth		01-OCT-2002 (TrEMBLrel. 22, Last sequence update)	01-OCT-2002 (TrEMBLrel. 22, Created)	Q8MINO;	Q8MINO PRELIMINARY; PRT; 65 AA.	NO .	73 .

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InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
PRINTS; PR00438; GFCYSKNOT.
ProDom; PD001629; PD growth_factor; 1.
SMART; SM00141; PDGF; 1.
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01-JAN-1998 (TrEMBLrel. 05,
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Zheng J., Tsoi S.C., Magness R.R.;
"Growth factor expression in ovine f
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAR-2003
                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Xenopus laevis (African clawed frog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00341; PDGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VEGF.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
  Match
                                                                                                                                                                                                                                                                                                                                                                                                          _TaxID=8355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99
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-2003 (TrEMBLrel. 23, L
r endothelial growth f
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CECRPKKDKARQEKCDKPRR 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 118 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13931 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               84.2%;
  72.1%;
                                                                                                                                                                                                                                                                                                                Saha M.S.,
Xenopus eml
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Last sequence update)
Last annotation updat
factor 122.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 101; DB Pred. No. 1.1e 2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Last sequence update)
Last annotation update)
factor (Fragment).
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  Score 86.5;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
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                                              4AD153CA2F8B1E95 CRC64;
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1.1e-07;
2;
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  13;
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Length 148;
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RESULT 5
Q91Y66
ID Q91Y
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Q91ZE1
    DR RTT RRC OCC
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Best Local S
Matches 19
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Ol-MAR-2003 (TrEMBLrel. 23, La
Vascular endothelial growth fa
VEGF.
                                                                                                                                                                       O91Y66;

01-DEC-2001 (TrEMBLrel. 19,

01-DEC-2001 (TrEMBLrel. 19,

01-MAR-2002 (TrEMBLrel. 20,

VEGF188 protein (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q91ZE1;
Q91ZE1;
EMBL; AF261751; AAK49408.1; -.
InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
NON_TER 1
                                                                                                                                       Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
SEQUENCE 190 AA; 22396 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (APR-2001) to the EMBL/GenBank/DDBJ EMBL; AY033506; AAL07526.1; -. InterPro; IPR000072; PD_growth_factor. Pfam; PF00341; PDGF; 1.
                                                                               Birot O.J.G.,
                                                                                          TISSUE=Heart;
                                                                                                                          NCBI_TaxID=10116;
                                               Submitted (APR-2000) to the EMBL/GenBank/DDBJ
                                                            nearc.";
                                                                  Birot O.J.G., Bigard X.A., "Identification by sequenc
                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                 991Y66
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ProDom; PD001629; PD_growth_factor; SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cardiomyocytes."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Marion S., Lee T.-C.; "Cloning of multiple VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-Sprague-Dawley; Marion S., Lee T.-C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rattus norvegicus (Rat).
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                                                                                                                                                                                                                                                                                                                                      127
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                                                                                                                                                                                                                                                                                          187 KPRR 190
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                                                                                                                                                                                                                                                                                                                                                                                  l Similarity
19; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15;
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                                                                                                                                                                                                                                                                                                                                      CECRPKKDRTKPENHCEPCSERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCD
                                                                                                                                                                                                                                                                                                                                                           CECRPKKDRTKPE----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                 70.8%;
larity 29.7%;
Conservative
                                                                                                                                                                                                                                  PRELIMINARY;
                                                                    rd X.A., van Cuyck-Gandre H.; sequencing of VEGF164 mRNA t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             splice variants
                                                                                                                                                                                    Last sequence update)
Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                  Score 85; DB
Pred. No. 4.2e
1; Mismatches
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                                                                                                                                                                                                            Created)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No.
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Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                       Craniata; Vertebrata; i
Sciurognathi; Muridae;
                                                                                                                                                                                                                                  PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                               589374010441F377 CRC64;
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0;
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                                                databases
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1;
                                                                                                                                                                                                                                                                                                                                                                                                      Length 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hypoxic neonatal
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                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                        Euteleostomi;
Murinae; Rat
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                                                                       rat
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RESULT 6
Q63672
ID Q6366
DT 01-W
DT 01
Q91Y68
ID Q91Y
AC Q91Y
AC Q91Y
DT 01-D
DT 01-D
DT 01-W
DT 01-W
COC Euka
OCC Mamm
OX NCBII
RN [1]
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Best Local S
Matches 14
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                                                                                                                                          Q91Y68
Q91Y68;
01-DEC-2001 (TrEMBLrel. 1
01-DEC-2001 (TrEMBLrel. 1
01-DEC-2001 (TrEMBLrel. 2
01-MAR-2002 (TrEMBLrel. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q63672 PRELIMINARY; PRT; 102 AA.
Q63672; Q63882;
01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-NAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor (VEGF188) (Fragment).
Rattus norvegicus (Rat).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=SPRAGUE-DAWLEY; TISST Yakovlev A.G., Faden A.I.; Submitted (JUL-1993) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NO.
                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rat
                                                                                              VEGF164 protein (Fragment).
Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; L20913; AAA42334.1; -. EMBL; S64321; AAB27671.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Expression of vascular endothelial growth factor by endothelial cells from brain microvessels."; Biochem. Biophys. Res. Commun. 194:799-803(1993).
EMBL; AF062644; AAC16448.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=93343939; Pu
Ladoux A., Frelin C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=CD; TISSUE=Lung;
Kim I., Ryan A., Rohan R., Aquilar S., Amano S.,
Miller J., Adamis A.P.;
Submitted (MAY-1998) to the EMBL/GenBank/DDBJ dat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=10116;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       102 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-52 FROM N.A.
SUE-DAWLEY; TISSUE=Brain;
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ilarity 100.0%;
Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PubMed=8343163;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12163 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             69.2%; Score 83; DB 11; Length 102; 100.0%; Pred. No. 4.8e-05;
                                                                                                                                             19,
                                                                                                                                             Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL/GenBank/DDBJ
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Pred. No.
                                                                                                                                                                                                                                                   PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDFC6A6914D07D2B CRC64;
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RESULT 9
Q9QX39
ID Q9QX
AC Q9QX
DT 01-M

Q9QX39 PRELIMINARY; Q9QX39; 01-MAY-2000 (TrEMBLrel. 13,

Created)

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RESULT
Q9ERL6
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Best Local S
Matches 14
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Best Local S
Matches 15
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Vascular endothelial growth ference:
Vascular endothelial growth ference:
Mesocricetus auratus (Golden hamster).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Birot O.J.G., Simler N., van Cuyck-Gandre H., Bigard X.A.; "VBGF gene expression in heart of rats exposed to hypobaric hypoxia."; Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.

EMBL, AF260425, AAK49396.1; -.

InterPro; IPR000072; PD growth_factor.

Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                   Submitted (AUG-2000) to the EMBL; AF297627; AAG16241.1; HSSP; P49763; 1FZV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. Ramesh G., Kondaia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9ERL6;
01-MAR-2001
                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                            PROSITE; PS00249; PDGF_1; 1. PROSITE; PS50278; PDGF_2; 1.
                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000072; PD_growth_factor. Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Regulation of expression of transforming steroid hormone in the hamster uterus.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9ERL6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            heart.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                      NON_TER
                                                                                                                                                                                                                                                                                                                 ProDom; PD001629; PD_growth_factor; 1
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83
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                                                                                                                                                                                                                                                                                              SM00141; PDGF;
                                            μ
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  CECRPKKVRTKPENHCEPCSERRK 106
                                          CECRPKKDRTKPEK----CDKPRR 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       65 AA;
                                                                                                                                                                               142 AA;
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                                                                                         Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7690 MW;
                                                                                                                                                                               16621 MW;
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                                                                                                          60.0%;
58.3%;
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                                                                                     Score 72; DB Pred. No. 0.00 2; Mismatches
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Pred. No. 6.3e
2; Mismatches
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6.3e-05;
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Best Local 9
    Query Match
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                                                                 PRINTS; PR00438; GFCYSKNOT.
ProDom; PD001629; PD growth factor;
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.

MEDLINE=99313148; PubMed=10386577;

MYOVI A., Resnick M.B., Nevo E., Joel A., Levy A.P.;

"Adaptive hypoxic tolerance in the subterranean mole ehrenbergi: the role of vascular endothelial growth f FEBS Lett. 452:133-140(1999).

EMBL; AF186236; AAD56245.1; -.

HSSP; P49763; 1FZV.
                                                   SEQUENCE
                                                                                                                                                                                      InterPro; IPR002400; GF cysknot.
InterPro; IPR000072; PD growth factor.
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                   EMBL; AF059661; AAC14713.1; HSSP; P49763; 1FZV.
                                                                                                                                                                                                                                                                                                                                 Submitted (APR-1998) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Actinopterygii; Neopterygii; Cyprinidae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Brachydanio rerio (Zebrafish)
Eukaryota; Metazoa; Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 073822;
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SMART; SM00141; PDGF; 1.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vascular
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01-MAR-2003
                                                                                                                                                                                                                                                             ZFIN; ZDB-GENE-990415-273; vegf.
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                                                                                                                                                                                                                                                                                                                                                                                  "Vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                     Liang D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=7955;
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PS50278; PDGF 2; 1.
190 AA; 22488 MW;
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003 (TrEMBLrel. 23,
endothelial growth
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                                              144 AA;
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Rodentia; Sciurognathi; Muridae;
                                              16479 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60.0%;
    59
                                                                                                                                                                                                                                                                                                                                                                               growth factor 121
    . 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Last sequence update)
Last annotation update)
factor 121 isoform.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Last sequence update)
Last annotation update)
factor.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 72;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; Craniata; Vertebrata; Euteleostomi; Teleostei; Ostariophysi; Cypriniform
  Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (Danio rerio).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2228383BC65F0BFE CRC64;
                                                303E6A7407AA0832 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
  71.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0.0037;
                                                                                                                                                                                                                                                                                                                                                                               isoform from zebrafish,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
  DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 190;
Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Spalacinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cypriniformes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Spalax
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           44;
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RESULT 12
Q95NE5
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Q96L82
  DT RRAPROCCOST
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                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity Matches 12; Conserv
                                                                                                                                                                                                                             Q95NE5
Q95NE5;
01-DEC-2001
01-DEC-2001
01-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q96L82;
Q96L82;
01-DEC-2001
        Shima D.T., Gougos A., Miller J.W., Tolentino M., Rot Adamis A.P., D'Amore P.A.;
"Cloning and mRNA expression of vascular endothelial ischemic retinas of Macaca fascicularis.";
Invest. Ophthalmol. Vis. Sci. 37:1334-1340(1996).
EMBL, S82167, AAB47118.1;
InterPro; IPR0000072; PD growth factor.
Pfam; PF00341; PDGF; 1...th factor.
                                                                                       (1)
SEQUENCE FROM N.A.
MEDLINE-96245208; PubMed-8641836;
Gougos A., Miller J.W.,
                                                                                                                                                Eukaryota; Metazoa; Crab eating macaque) (Cynomolgus monkey).

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae.

Cercopithecinae; Macaca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00341; PDGF; 1.

ProDom; PD001629; PD growth factor; 1.

PROSITE; PS00249; PDGF 1; 1.

PROSITE; PS50278; PDGF 2; 1.

SEQUENCE 191 AA; 22314 MW; CCES709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Liu J., Peng X., Yuan J., Qiang I "Cloning of vascular endothelial submitted (JUL-2001) to the EMBL, EMBL; AY047581; AAK95847.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-DEC-2001 (TrEMBLrel. 19, 01-DEC-2001 (TrEMBLrel. 19, 01-OCT-2002 (TrEMBLrel. 22,
                                                                                                                                                                                                                     SimVEGF165.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vascular endothelial growth
                                                                                                                                           NCBI_TaxID=9541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR000072; PD_growth_factor.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
  PD001629;
                                                                                                                                                                                                                                                                                                                                                                                      CECRPKKDRARQENPCGPCSERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCD 187
                                                                                                                                                                                                                                                                                                                                                                                                              CECRPKKDRTKPE---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CECRPKAEVKAKKERCEKPR 144
                                                                                                                                                                                                                                                                                                                                         KPRR 191
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                                                                                                                                                                                                                               (TrEMBLrel. 19, (TrEMBLrel. 19, (TrEMBLrel. 22,
                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   endothelial growth factor
to the EMBL/GenBank/DDBJ c
                                                                                                                                                                                                                                                                                                                                                                                                                                                57.5%;
25.0%;
growth_factor; 1
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Last
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                                                                                                                                                                                                                                                        Created)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 69;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
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                                                                                                                                                                                                                               sequence up
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                                                                                                                                                                                                                                                                                 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 4;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (VEGF) cDNA.";
                                                                                              Robinson
                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
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                                                                         factor
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RESULT 13
Q95LQ4
ID Q95LQ
AC Q95LC
DT 01-DE
DT 01-ME
DT 01-ME
DT 01-ME
OC FURSC
OC MARMO
OC M
RESULT 14
Q9XT61
ID Q9XTR
AC Q9XTR
DT 01-NC
DT 0
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Best Local S
Matches 11
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Best Local S
Matches 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE;
PROSITE;
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.

KOGA I., Kobayashi Y., Yazawa M., Masuda K., Ohno K., Ts

"Nucleotide sequence and expression of the feline vascul

growth factor.";

growth factor.";

Submitted (SEP-2001) to the EMBL/GenBank/DDBJ databases.

EMBL; AB071947; BAB68520.1;

InterPro; IPR0000072; PD growth factor.

Pfam; PF00341; PDGF; 1.
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Q95LQ4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProDom; PD001629; PD growth_factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
SEQUENCE 189 AA; 22193 MW; C1E4646
                                                                                                                                                                                                                                         Macaca fascicularis (Crab eati
Bukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
Cercopithecinae; Macaca.
                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9XT61;
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor.
Felis silvestris catus (Cat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
                                                   TISSUE=Lung;
Kim I.K., Ryan A.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q9XT61
                                    Kim I.K., Ry
Adamis A.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9685;
                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                         NCBI_TaxID=9541;
   'Constitutive expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            128
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PS50278; PDGF_2;
191 AA; 22314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CECRPKKDRAKENPC 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CECRPKKORTKPEKC
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                                                                                                                                                                                                                                                                                                                                     (Crab eating macaque) (Cynomolgus monkey).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         56.7%;
73.3%;
                                                                 Rohan R., Amano
   of VEGF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15
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Pred. No. 0.01
0; Mismatches
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Pred. No.
                                                                                                                                                                                                                                                                              Craniata; Vertebrata; Euteleostomi; Catarrhini; Cercopithecidae;
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   VEGFR-1
                                                                 S., Aqular S.,
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0.011;
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   and VEGFR-2 in normal
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vascular endothelial
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                                                                 Miller J.W.,
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Best Local S
Matches 11
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InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS00279; PDGF 1; 1.
PROSITE; PS00279; PDGF 2; 1.
NON TER 127 127
SEQUENCE 127 AA; 14920 MW; 5AB63F01A
rch completed: January time: 21.7179 secs
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Q8WMQ4;
01-MAR-2002
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Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF106942; AAD20589.1; -.
InterPro; IPR000072; PD_growth_factor.
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01-MAR-2002 (TrEMBLrel. 20,
01-OCT-2002 (TrEMBLrel. 22,
Vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      exercise training."; Submitted (JAN-2002) to the EMBL/GenBank/DDBJ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sus scrofa (Pig).
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NON_TER 1 1
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Yuan H., Li J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
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1; Mismatches
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Pred. No. 0.
                            11:44:39
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0.012;
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Sus.
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Post-processing: Minimum Match 0%
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Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Minimum DB seq length: 0
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1: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1980.DAT:*

2: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1981.DAT:*

3: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1982.DAT:*

3: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*

5: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*

6: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1985.DAT:*

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Gapop 10.0 , Gapext 0.5
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| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1985.DAT:*
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Copyright (c) 1993 - 2004 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution. Pred. No.

SUMMARIES

Mutant vascular en Mouse ischaemic co Alternative form o	ABB57038 ABB52348	17 23 13	190 190 146	92.1 92.1 88.6	105 101	987
Mutant vascular en Mutant vascular en	AAW03039 AAW03040	17 17	190 190	92.1 92.1	105 105	ი თ
Mouse vascular end Mutant vascular en	AAY24316 AAW03038	20 17	141 190	92.1 92.1	105 105	u a
Immunogenic peptid Mutant vascular en	AAB18546 AAW03041	21	21		114 105	21
Description	IJ	DB	Query Match Length DB	Query	Score	Result No.

44	43	42	41	40	39	38	37	36	35	34	<u>33</u>	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	1	10
0.8 0.8	80	81	81	81	18	81	18	81	81	85	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
70.2	70.2	71.1	71.1	71.1	71.1	71.1	71.1	71.1	71.1	74.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6
2 5 5	21	190	164	164	120	120	39	21	20	190	214	214	214	214	214	214	190	190	190	190	190	190	190	190	190	190	190	190	190	190	146	146	146	146
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AAR36681 AAR88566	AAR13381	AAR08001	AAR38920	AAR10911	AAR38916	AAR10916	AAR07270	AAR07271	AAR38917	AAY33440	AAB37506	AAY97569	AAY57030	AAW53641	AAR27355	AAR22351	AAB73962	AAB73961	AAB37504	AAY97567	AAY57028	AAY33441	AAW53643	AAW53642	AAW53639	AAR27352	AAR27351	AAR27350	AAR22347	AAR08120	AAB37505	AAY57029	AAW53640	AAR27354
Guinea pig VPF N-t Guinea pig VEGF N-	rmea	Bovine vascular en	VEGF-164.	Bovine vascular en	VEGF-120.	Bovine vascular en	Recombinant-derive	Folliculo stellate	N-terminal portion	Parapox virus VEGF	Rat VEGF subunit A	Human VEGF-A prote		Vascular endotheli	Sequence of vascul	ernative	VEGF		Rat VEGF subunit A	Human GDGF protein	Vascular endotheli	Parapox virus VEGF	Vascular endotheli	Vascular endotheli	en	of.	of	uence of v	Rat Vascular Endot		ទួ	VEGFA 146 amino ac	Vascular endotheli	Sequence of vascul

ALIGNMENTS

AAB18546	ET 1 8546	
standard;		
peptide;		

21 A

Immunogenic peptide fragment derived from FGF and/or VEGF.

15-JAN-2001 (first entry)

AAB18546;

Immunogenic peptide; fibroblast growth factor; FGF; VEGF; cancer; vascular endothelial growth factor; hyperproliferative disorder; haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis; telangiectasia; psoriasis; scleroderma; pyogenic granuloma; myocardial angiogenesis; Crohn's disease; plaque neovascularisation; arteriovenous malformation; corneal disease; rubeosis; neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia; arthritis; diabetic neovascularisation; macular degeneration; wound healing; peptic ulcer; Helicobacter related disease; fracture; keloid; vasculogenesis; hematopoiesis; ovulation; menstruation; placentation; cat scratch fever.

WO200053219-A2. Unidentified.

10-MAR-2000; 2000WO-US06320.

14-SEP-2000.

11-MAR-1999; 99US-0266543

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RESULT 2
AAW03041
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Matches
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                                                                   WPI;
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          New receptor protein tyrosine kinase assays - used to identify inhibitors or activators which can be used in therapy involving angiogenesis or vascular permeability
                                                                                             Stacker SA,
                                                                                                                                                     23-DEC-1994;
                                                                                                                                                                    23-DEC-1994;
                                                                                                                                                                                               22-DEC-1995;
                                                                                                                                                                                                                           04-JUL-1996
                                                                                                                                                                                                                                                      WO9620403-A1
                                                                                                                                                                                                                                                                                 Mus musculus.
                                                                                                                                                                                                                                                                                                            wound healing; vascular endothel neuroepithelial tyrosine kinase.
                                                                                                                                                                                                                                                                                                                         Receptor protein tyrosine kinase; assay; screening; agonist; activator; vascular permeability; angiogenesis; tumour thera wound healing; vascular endothelial growth factor;
                                                                                                                                                                                                                                                                                                                                                                              Mutant vascular endothelial growth factor (truncated
                                                                                                                                                                                                                                                                                                                                                                                                            11-FEB-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                        AAW03041;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW03041 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                corneal diseases, rubeosis, neovascular glaucoma, diabetic retinopathy, retrolental fibroplasia, arthritis, diabetic neovascularisation, macular degeneration, wound healing, peptic ulcer, Helicobacter related diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation, menstruation, placentation and cat scratch fever.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hyperproliferative disorders, especially haemangioma, solid tumours, blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis, scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's disease, plaque neovascularisation, arteriovenous malformations,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       growth factor (FGF) and/or vascular endothelial growth fac
The peptides are used to produce immunogenic compositions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAB18542-51 represent immunogenic growth factor (FGF) and/or vascul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 13;
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                                                                                                                         (LUDW-) LUDWIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            immunogenic composition is used for treating cancer or
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ilarity 100.0%;
Conservative (
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94AU-0000300.
                                                                                                                           INST CANCER RES
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Pred. No. 2.9e-12;
•• Mismatches 0;
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RESULT 4
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ID AAW0
XX
AC AAW0

standard; protein; 190 AA

AAW03038;

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RESULT 3
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                                                                                                                                                                                                                                                                  The present sequence represents mouse vascular endothelial growth factor designated VEGF115.
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APTTEGEOKSHEVIKEMDVY
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                                                                                                     92.1%;
ilarity 100.0%;
Conservative (
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Pred. No. 8.3e-10;
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Pred. No. 8.9e-10;
46
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus
 WO9620403-A1
                           Mus musculus
                                                  Receptor protein tyrosine kinase; assay; screening; agonist; activator; vascular permeability; angiogenesis; tumour therapy; wound healing; vascular endothelial growth factor; neuroepithelial tyrosine kinase.
                                                                                                                      Mutant vascular endothelial growth factor.
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|llarity 100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      growth factor.
                                                                                                                                                                                                         ₿
                                                                                                                                                                                                                                                                                                                                    Mismatches
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                                                                                                                                                                                                                                                                                                                                                             Length 190;
                                                                                                                                                                                                                                                                                                                                    Indels
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RESULT 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Receptor protein tyrosine kinase assays can be used to identify inhibitors of receptor tyrosine kinases which can be utilised for inhibiting vascular permeability or for preventing angiogenesis e.g in tumour therapy; or the assays can be used to identify activators of receptor tyrosine kinases which can be used to induce vascular permeability or to enhance angiogenic activity, e.g., in wound healing. This mutant vascular endothelial growth factor comprises an H111G substitution and was identified in an assay involving the receptor protein neuroepithelial tyrosine kinase (NYK). It is a receptor agonist.
                                                                                                                                                                                                              Receptor protein tyrosine kinase; assay; screening; agonist; activator; vascular permeability; anglogenesis; tumour therapy; wound healing; vascular endothelial growth factor; neuroepithelial tyrosine kinase.
                       Stacker SA,
                                                                        23-DEC-1994;
23-DEC-1994;
                                                                                                                                                                                                                                                                              Mutant vascular endothelial growth factor.
                                                                                                                                                                                                                                                                                                       11-FEB-1997
                                                                                                                                                                                                                                                                                                                                AAW03040;
                                                                                                                                                                                                                                                                                                                                                        AAW03040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New receptor protein tyrosine kinase assays - used to identify inhibitors or activators which can be used in therapy involving angiogenesis or vascular permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Stacker SA,
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23-DEC-1994;
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                                                                                                             22-DEC-1995;
                                                                                                                                                              WO9620403-A1
                                                                                                                                                                                      Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1996-321946/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (LUDW-) LUDWIG INST CANCER RES
                                               (LUDW-) LUDWIG INST CANCER RES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                       27
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                                                                                                                                                                                                                                                                                                                                                                                                                                               1 APTTEGEOKSHEVIKFMDVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                        standard; protein; 190 AA
                                                                                                                                                                                                                                                                                                                                                                                                                       APTTEGEQKSHEVIKFMDVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           190 AA;
                      Wilks AF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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                                                                                                                                                                                                                                                                                                       (first entry)
                                                                          94AU-0000301.
94AU-0000300.
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94AU-0000300.
                                                                                                             95WO-US16753.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   92.1%; Score 105; DB 17;
100.0%; Pred. No. 1.3e-09;
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                                                                                                                                                                                                                                                                                                                                                                                                                       46
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
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WPI; 1996-321946/32

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RESULT 7
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Receptor protein tyrosine kinase; assay; screening; agonist; activator; vascular permeability; anglogenesis; tumour therapy; wound healing; vascular endothelial growth factor; neuroepithelial tyrosine kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         identify activators of receptor tyrosine kinases which can be used to induce vascular permeability or to enhance angiogenic activity, e.g., in wound healing truth and to enhance angiogenic activity, e.g., in wound the comprises a G117V substitution and was identified in an assay involving the receptor protein neuroepithelial tyrosine kinase (NYK). It is a receptor agonist.
Receptor protein tyrosine kinase assays can be used to identify inhibitors of receptor tyrosine kinases which can be utilised for inhibiting vascular probability or for preventing anglogenesis e.g in tumour therapy; or the assays can be used to identify activators of receptor tyrosine kinases which can be used to induce vascular permeability or to enhance angiogenic activity,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Receptor protein tyrosine kinase assays can be used to identify inhibitors of receptor tyrosine kinases which can be utilised for inhibiting vascular permeability or for preventing angiogenesis e.g in tumour therapy; or the assays can be used to
                                                                                                       Claim 33; Page 52-53; 78pp; English.
                                                                                                                                     New receptor protein tyrosine kinase assays - used to inhibitors or activators which can be used in therapy angiogenesis or vascular permeability
                                                                                                                                                                                                                               Stacker SA,
                                                                                                                                                                                                                                                                                           23-DEC-1994;
23-DEC-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mutant vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11-FEB-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW03042;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New receptor protein tyrosine kinase assays - used to inhibitors or activators which can be used in therapy anglogenesis or vascular permeability
                                                                                                                                                                                                                                                               (LUDW-) LUDWIG INST CANCER RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                190 AA;
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                                                                                                                                                                                                                               Wilks AF
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94AU-0000300.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 105; DB 17; Pred. No. 1.3e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       factor.
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RESULT 8
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ID ABB5
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                                          The present invention describes a method for examining ischaemic conditions, comprising measuring the expression levels of particular genes (I) in a test sample or determining the expression profile of a gene group in the sample comprising genes selected from (I). The method is useful for examining the ischaemic condition (e.g. compressive ischaemia, occlusive ischaemia or vasospastic ischaemia) by measuring expression levels of particular genes (AB199202 to AB199912, encoding the protein sequences in ABB57020 to ABB57374) or by determining the expression profile of a gene group comprising these genes. The expression levels or expression profiles produced by these genes are used as an indicator when screening for ischaemic condition-improving drugs or therapeutics for ischaemic diseases. AB199913 and AB199914 represent PCR primers for a mouse ischaemic condition related sequence, which are used in the exemplification of the present invention.
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Best Local S
Matches 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Examining the ischemic condition (e.g. expression levels of particular genes of determining the expression profile of the control of the cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200188188-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mouse ischaemic condition
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-MAR-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ishikawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-MAY-2001; 2001WO-JP04192
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mouse; ischaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (UYNI-) UNIV NIHON SCHOOL JURIDICAL PERSON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2002-034733/04.
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ilarity 100.0%;
Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000JP-0145977.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Takahashi Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ischaemic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 related protein sequence SEQ ID NO:50
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  . occlusive ischemia) by measuring defined in the specification or of a gene group comprising these
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          occlusive ischaemia;
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Query Match Best Local Similarity

92.1%; 100.0%;

Score 105; DB 23; Pred. No. 1.3e-09;

Length 190;

Sequence

190

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RESULT 9
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                                             Query Match
Best Local Similarity
Matches 18; Conserv
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                                                                                                               Multiple cDNAs encoding alternative forms of the VEGF A-subunit were amplified using PCR primers as in AAQ23049 and AAQ23050. Three sets of clones were identified. Clone #12 encoded the 164 amino acid secreted form of VEGF A-subunit (see AAR22347). Clone #14 has a 135 bp deletion and thus encodes a 120 amino acid form and Clone #16 has a 72bp insertion and encodes a 188 amino acid mature protein (AAR22351). The deleted region lies between the second base of the Asn140 codon and the third base of the Arg184 codon. The 120 amino acid mature protein has Asn140 converted to Lys140. See also AAQ23038-Q23059.
                                                                                           Sequence
                                                                                                                                                                                                                                            Example 9; Page 14 and Fig 4; 38pp; English.
                                                                                                                                                                                                                                                                   Vascular endothelial cell growth factor II - used as coating artificial blood vessels or to promote tissue repair
                                                                                                                                                                                                                                                                                                        WPI; 1992-098641/13.
N-PSDB; AAQ23039.
                                                                                                                                                                                                                                                                                                                                          Bayne ML,
                                                                                                                                                                                                                                                                                                                                                                                        21-SEP-1990;
21-SEP-1990;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     polymerase chain reaction; alternative splicing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rat glioma cell; GS-9L; homodimer; mitogenesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alternative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29-JUL-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR22348;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR22348 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                           18-SEP-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Peptide
                                                                                                                                                                                                                                                                                                                                                                 (MERI ) MERCK & CO INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20;
APTTEGEQKSHEVIKFMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APTTEGEOKSHEVIKFMDVY 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APTTEGEOKSHEVIKFMDVY
                                                                                                                                                                                                                                                                                                                                          Conn GL,
                                                                                           146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    form of VEGF mature A-subunit with 120 amino acids.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first
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90US-0586638
                                                                                                                                                                                                                                                                                                                                                                                                                           91EP-0308489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label= signal
27..146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /label= VEGF_A-subunit
/note= "120 amino acids long"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entry)
                                                        88.6%;
90.0%;
                                                                                                                                                                                                                                                                                                                                          Thomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                conditioned medium; heterodimer; VEGF-II;
vascular repair; blood vessel implant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         146
                                             2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                             Score 101; DB 13; Length 146; Pred. No. 4.4e-09; Indels 0; Indels
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                                           Gaps
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RESULT 11 AAW53640

AAW53640 standard; Protein; 146 AA.

0

30-JUL-1998 AAW53640;

(first entry)

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RESULT 10
AAR27354
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                                                                                                                         The full length coding region of the A subunit or monomer of VEGF CC is determined from three sets of overlapping cDNA clones. Degenerate coligo. primers based on the amino acid sequences Phe-Met-Asp-Val-Tyr-Gln from polypeptide L42 (residues 42-47) and CC Cys-Lys-Asn-Thr-Asp from polypeptide T38 (residues 164-168) were used CC Cys-Lys-Asn-Thr-Asp from polypeptide T38 (residues 164-168) were used CC coligon of the cDNA for VEGF A chain. CC A single band migrating at 420 bp was gel purified, digested with Sall, CC ligated into pGEM3Zf(+) and sequenced. The nucleotide sequence CC cobtained (p42-38) was used to design antisense and sense PCR primers CC cobtained (p42-38) was used to design antisense and sense PCR primers CC are denoted p5-15 and gw3, respectively. In addition to the cDNA CC coding the 164 amino acid secreted form identified by protein CC sequencing, two alternatively spliced cDNAs encoding a 146 amino acid comms are cloned and sequenced. (Updated on 25-MAR-2003 to correct PN field.)
                                                         Query Match
Best Local Similarity
Matches 18; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vascular endothelial cell growth factor sub-units - which stimulate vascular endothelial cell growth, used for inducing tissue repair
                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Fig 4; 61pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-PSDB; AAQ28953.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1992-325745/40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EP506477-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vascular development; mitogen; blood vessel; vascular endothelial growth factor; neovascu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence of vascular endothelial cell growth factor VEGF 146 amino acid residue subunit.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR27354;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAR27354 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                and growtn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bayne ML, Thomas KA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27-MAR-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-SEP-1992.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-MAR-2003
25-FEB-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (MERI ) MERCK & CO INC.
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                              \vdash
                    APTTEGEQKSHEVIKFMDVY 20
 APTTEGEOKAHEVVKFMDVY
                                                                                                                       146 AA;
                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (updated)
(first entry)
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                                                                       90.0%;
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                                                           2
                                                           Score 101; DB 13;
Pred. No. 4.4e-09;
2; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            neovascularisation.
                                                            0
                                                                                       Length 146;
                                                            Indels
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                                                            Gaps
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THE STANDARD SOLUTION AND A SOLUTION
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence represents a rat vascular endothelial growth factor II (VEGF II) A subunit variant with a conversion of Asn 140 to Lys 140, and the deletion of His 141 to Arg 184 from the wild-type given in AAW53639. The present invention describes: (1) a mammalian VEGF II protein comprising an A subunit from AAW53640, and as Subunit from AAW53638, AAW53639, AAW53641, and a B subunit from AAW53638, AAW53639 or the first I15-135 amino acids of AAW53638; and (2) a mammalian VEGF comprising a heterodimer or homodimer of B subunits. The growth factor is used for promoting vascular development and repair and for promoting tissue repair.

N.B. The present sequence is not given inthe specification but is derived from Fig 5 as stated in the claim.
                         20-SEP-1993;
                                                                           30-NOV-1999.
                                                                                                                             US5994300-A
                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                         vascular
                                                                                                                                                                                                                                                               VEGF; vascular endothelial growth factor; A subunit; tissue growth;
                                                                                                                                                                                                                                                                                                                                                                         15-FEB-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAY57029 standard; Protein; 146 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 1; Page -; 46pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vascular endothelial growth factor proteins - having specified A and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1998-206007/18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bayne ML,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21-SEP-1990;
05-JAN-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31-AUG-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US5726152-A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                                                                                                       146
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APTTEGEQKAHEVVKFMDVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APTTEGEQKSHEVIKFMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   endothelial cell
sis; blood vessel
                                                                                                                                                                                                                                    development; artificial blood vessel; repair; human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conn GL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                         93US-0124259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90US-0586638.
93US-0000834.
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                                                                                                                                                                                                                                                                                                                       acid
                                                                                                                                                                                                                                                                                                                       residue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      88.6%;
90.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Thomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 growth factor II A subunit variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   growth factor; VEGF II; rat; glioma cell;
growth; artificial blood vessel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 101; DB 19;
Pred. No. 4.4e-09;
                                                                                                                                                                                                                                                                                                                       subunit sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
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RESULT 13
AAB37505
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Best Local S
Matches 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This is the amino acid sequence of a 146 amino acid residue A subunit of vascular endothelial cell growth factor (VEGF). The invention relates to a purified and isolated VEGF C subunit amino acid sequence AAY57025. VEGF exists in various microheterogenous forms, and is useful for the promotion of vascular development and repair. The invention also relates to human VEGF heterodimers AC or BC and homodimer CC, where A, B and C are subunit amino acid sequences. The VEGF AC, BC or CC amino acid sequences can be used in a tissue repairing pharmaceutical composition. The novel growth factors are useful for the production or coverage of artificial blood vessels with vascular endothelial cell. They are also useful for the induction of tissue growth and repair.
                        Human vascular endothelial cell growth factor (VEGF) C subunit DNA protein, useful for promoting vascular development and repair, and promoting tissue repair, especially for treating wounds in mammals
Example 9; Fig 4; 58pp; English
                                                                                WPI; 2001-014858/02.
N-PSDB; AAC83512.
                                                                                                                                                                              20-SEP-1993;
28-MAR-1991;
                                                                                                                                                                                                                                                   31-OCT-2000.
                                                                                                                                                                                                                                                                                                                                 Vascular endothelial growth factor; VEGF C subunit; cell division; artificial blood vessel; tissue growth; tissue repair.
                                                                                                                                                                                                                                                                                                                                                                           Rat VEGF
                                                                                                                                                                                                                                                                                                                                                                                                      26-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB37505;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAB37505 standard; Protein; 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Purified and isolated vascular endothelial cell growth factor C for the induction of tissue repair or growth -
                                                                                                                         Thomas KA,
                                                                                                                                                                                                                       16-JAN-1996;
                                                                                                                                                                                                                                                                            US6140073-A.
                                                                                                                                                                                                                                                                                                      Rattus sp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Fig 3; 58pp; English.
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                                                                                                                                                    (MERI ) MERCK & CO INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APTTEGEOKSHEVIKFMDVY 20
                                                                                                                                                                                                                                                                                                                                                                           subunit A SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         146 AA;
                                                                                                                         Bayne ML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                      (first
                                                                                                                                                                              93US-0124259.
91US-0676436.
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                                                                                                                                                                                                                         96US-0586039.
                                                                                                                                                                                                                                                                                                                                                                                                      entry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90.0%;
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Pred. No. 4.4e-09;
2; Mismatches 0;
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RESULT 14
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Best Local S
Matches 18
                                           Query Match
Best Local S
Matches 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention is concerned with the human vascular endothelial growth factor (VEGF) C subunit. VEGF is a vascular endothelial cell mitogen and can be used to promote vascular development and repair. The C subunit may exist as a homodimer or a heterodimer with the VEGF A or B subunit. VEGF can be used in the treatment of wounds of mammals, to cover artificial blood vessels with vascular endothelial cells, in the production of artificial blood vessels and to induce tissue repair or
                                                                                        Sequence
                                                                                                          GDGF stimulates mitogenesis and vascular endothelial cell growth, useful in promoting wound healing or tissue growth. It allows vascular explants to be grown on a GDGF treated surface for implantation in a host. The sequence was isolated from the GS-9L rat cells.
                                                                                                                                                                                                  Glioma-derived growth factor - stimulates mitogenesis of mammalian endothelial cells and is used in vitro or in vivo
                                                                                                                                                                                                                                                                                                                  30-MAR-1990;
24-MAY-1989;
                                                                                                                                                                                                                                                                                                                                                                         28-NOV-1990
                                                                                                                                                                                                                                                                                                                                                                                                                   Rattus rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                         Mitogenesis; wound healing
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mammalian glioma-derived growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAR08120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAR08120 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
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                                                                                                                                                                  Claim 19; Fig 1; 19pp; English.
                                                                                                                                                                                         stimulate
                                                                                                                                                                                                                                                WPI; 1990-356428/48.
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                                            18;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  n 88.6%;
Similarity 90.0%;
18; Conservative
                                                        Similarity
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              APTTEGEOKSHEVIKFMDVY 20
 APTTEGEQKAHEVVKFMDVY
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                                                                                        190 AA;
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89US-0356477.
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Pred. No. 4.4e-09;
2; Mismatches 0;
                                           Score 101; DB 1
Pred. No. 6e-09;
2; Mismatches
 46
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68..98
/label= V30
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                                        /label= V11
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36..41
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42..133
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39..62
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00 102
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Query Match
Best Local S
                                                  Matches
                                                                                                                    The VEGF-I A-subunit was found to be identical to the VEGF-II A-subunit. The isolated A-monomer was treated with trypsin, CNBr, Lys C or V8 protease. The peptides resulting from the digestions were isolated and sequenced using the Edman degradation reaction in a gas phase sequenced. In addition to the peptide fragments which were directly sequenced, the full-length protein sequence was deduced from the CDNA encoding it.

See also AAQ23040-Q23059.
                                                                                               Sequence
                                                                                                                                                                                                                              Disclosure; Fig 4; 38pp; English.
                                                                                                                                                                                                                                                    Vascular endothelial cell growth factor {\rm II} - used as coating for artificial blood vessels or to promote tissue repair
                                                                                                                                                                                                                                                                                         WPI; 1992-098641/13.
N-PSDB; AAQ23038.
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21-SEP-1990;
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                                                            Local Similarity
   27
1 APTTEGEQKSHEVIKFMDVY 20
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27 APTTEGEQKAHEVVKFMDVY 46
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90US-0586638.
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                                                Mismatches
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                                                Indels
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밁 Search completed: January 30, 2004, 11:40:07 Job time : 29.8788 secs Ś

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Result
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Maximum DB seq
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
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GENERAL INFORMATION:
Query Match
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CITY: Washington
STATE: DC
COUNTRY: USA
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APPLICANT: OLOFSSON, Birgitta
APPLICANT: ALITALO, Kari
APPLICANT: PAJUSOLA, Katri
TITLE OF INVENTION: VASCULAR ENDOTHELIAL
TITLE OF INVENTION: DIA CODING THEREFOR
NUMBER OF SEQUENCES: 23
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CORRESPONDENCE ADDRESS:
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Lenahan, P.L.L.C.

GROWTH

FACTOR-B

AND

ALIGNMENTS

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COMPUTER REALABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/569,063C
FILING DATE: 06-DEC-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/469,427
APPLICATION NUMBER: US 08/469,427
FILING DATE: 06-JUN-1995
PRIOR APPLICATION NUMBER: US 08/397,651
APPLICATION NUMBER: US 08/397,651
FILING DATE: 01-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: EVANS, JOSEPh D
REGISTRATION NUMBER: 26,269
REFERENCE/DOCKET NUMBER: 1064/41979CP3
TELEPHONE: (202) 628-8800
TELEPHONE: (202) 628-880
                                                                                                                                                                                        INFORMATION FOR SEQ ID NO: 20:
                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 190 amino acid
                                                              MOLECULE TYPE:
                                                                               STRANDEDNESS:
TOPOLOGY: li
                                                                                                                          TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20005
                                                                                                                                           190 amino acids
                                                                                                                                                                                                              (202)
                                                                                  linear
                                                                                                   single
                                                                                                                                                                                                         628-8844
92.1%;
Score 105;
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Length 190;
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126 E. Lincoln Avenue

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RESULT 3
US-08-586-039B-33
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                                                                                  Sequence 33, Application US/08586039B Patent No. 6140073 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity
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Patent No. 60225
                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION:
TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
                        APPLICANT: Bayne, Marvin L.
APPLICANT: Thomas Jr., Kenneth A.
TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA:
APPLICATION US/08/807,9921
FILING DATE: March 3, 1997
CLASSIFICATION: 424
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
COMPUTER: IBM PS/1
                 TITLE OF INVENTION: VASCULAR
                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: FRAGMENT TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: lir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PS/
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: David Prashker, Esq. STREET: P.O. Box 5387
CITY: Magnolia
                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION:
                                                                                                                                                                                                                                                                       18;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 APTTEGEOKSHEVIKEMDVY 20
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                                                                                                                                                                                                                        APTTEGEQKSHEVIKFMDVY 20
                                                                                                                                                                                                        APTTEGEOKAHEVVKFMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Massachusetts
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Dvorak, Harold F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ilarity 100.0%; Pred. No. 3e-10; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                      peptide
N-terminal
                                                                                                                                                                                                                                                                                                                                                                                                     single
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                                                                                                                                                                                                                                                                                       90.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vessel
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                                                                                                                                                                                                                                                                       2;
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Pred. No. 1.4e-10;
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RESULT 4
US-09-699-769-33
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GENERAL INFORMATION:
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/586,0391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (908) 594-4720 INFORMATION FOR SEQ ID NO: 33:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION:
PRIOR APPLICATION DATA:
PAPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE: (508)
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: MICTOSOFT WORD
SOFTWARE: MICTOSOFT WORD
APPLICATION NUMBER: US/09/699,769
FILING DATE: 30-Oct-2000
CLASSIFICATION: <UNKNOWN>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/586,039
FILING DATE: 16-JAN-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET:
CITY: F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Bayne, Marvin L.
Thomas Jr., Kenneth A.
TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27 APTTEGEQKAHEVVKFMDVY 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 APTTEGEQKSHEVIKFMDVY 20
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                                                                                                                                                                                                                                                                   STATE: New Jersey
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                                                                                                                                                                                                                            COUNTRY: USA
ZIP: 07065-0900
                                                                                                                                                                                                                                                                                   CITY: Rahway
                                                                                                                                                                                                                                                                                                    STREET: 126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Merck & Co., Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/09699769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18361DA
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Pred. No. 1.1e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 3; Length 146;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                    APPLICATION NUMBER: 08/124,259
EILING DATE: 20-SEP-1993
APPLICATION NUMBER: 07/676,436
EILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark
                                                                  TELEFAX: (908) 594-47
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  atent No. 6140073
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION FOR SEQ ID NO: 33: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Bayne, MALLER APPLICANT: Thomas Jr., Kenneth A.
APPLICANT: Thomas Jr., Kenneth A.
TINYENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR C
                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                      REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18361DA
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: VASCULANTITLE OF INVENTION: SUBUNIT NUMBER OF SEQUENCES: 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
                                                                             TELEPHONE: (508)
                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: USA
ZIP: 07065-0900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Rahway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
 STRANDEDNESS:
                  ENGTH: 190 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-193
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SEQ ID NO: 33:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acids
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REFERENCE/DOCKET NUMBER: 18361DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: (732) 594-3905
TELEFAX: (732) 594-4720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Application US/08586039B
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Merck & Co.,
                                                                                                         (908) 594-3905
                                                                                                                                                                                                                                                                                                                        16-JAN-1996
single
                                                                                   594-4720
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                                                                      31:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Inc.
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Pred. No. 1.1e-09;
2; Mismatches 0
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US-09-699-769-31
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                                                               Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                Best
                                                                                             Query Match
                                                                                                                                                                                                                                                          INFORMATION
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                                                                                                                                                                                                                                                                 FILING DATE: 16-JAN-1996
APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
NAWE: Hand, J. Mark
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 13661DB
TELEPHONE: (732) 594-3905
TELEPHONE: (732) 594-3905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: linear
                                                                            Local
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APPLICATION NUMBER: US/09/699,769
FILING DATE: 30-Oct-2000
CLASSIFICATION: <u >diknown>
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Microsoft Word 6
                                                                                                                                          MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                          MATION FOR SEQ ID NO: 31: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: Merck & Co.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Bayne, Marvin L.
Thomas Jr., Kenn
27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18;
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                    1 APTTEGEQKSHEVIKFMDVY 20
                                                               18;
                                                                                Similarity
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APTTEGEOKAHEVVKFMDVY 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE: New Jersey
                                                                                                                                                                                         STRANDEDNESS: single
                                                                                                                                                                                                          TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: Rahway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: 126 E. Lincoln Avenue
                                                                                                                                                                        TOPOLOGY: linear
                                                                                                                                                                                                                       LENGTH: 190 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07065-0900
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                                                                           90.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kenneth A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2
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Pred. No. 1.4e-09;
                                                             Score 101; DB 4; Length 190; Pred. No. 1.4e-09; indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                          18361DB
                                                                                                                                               31:
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                                                             Gaps
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RESULT 7

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                                                                                                                                                                                                                                                                         RESULT 8
US-09-699-769-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JS-08-586-039B-35
                                                                                                                                                                                                                      Sequence 35, Application Patent No. 6569434
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark
REGISTRATION NUMBER: 36,545
REGISTRATION NUMBER: 36,545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: Bayne, Marvin L.
APPLICANT: Thomas Jr., Kenn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (908) 594-47:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION: TELEPHONE: (908) 594-3905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR TITLE OF INVENTION: SUBUNIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                           Local
COUNTRY: USA
ZIP: 07065-0900
COMPUTER READABLE FORM:
                                                                            CORRESPONDENCE ADDRESS:
ADDRESSE: Merck & Co., Inc.
STREET: 126 B. Lincoln Avenue
                                                                                                                                                                  APPLICANT: Bayne, Marvin L.
Thomas Jr., Kenneth A.
TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          35, 75
No. 6140073
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                                                                                                                                                                                                                                                                                                                                                         1 APTTEGEQKSHEVIKFMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                    88.6%;
1 Similarity 90.0%;
18; Conservation
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           amino acid
                                                  STATE: New Jersey
                                                                                                                                                                                                                                                                                                                                         APTIEGEOKAHEVVKFMDVY 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New Jersey
                                                                  CITY: Rahway
                                                                                                                                                                                                                                                     Application US/09699769
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         214 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3: Merck & Co., Inc.
126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               35:
                                                                                                                                                       SUBUNIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18361DA
                                                                                                                                                                                                                                                                                                                                                                                                                         Score 101; DB 3;
Pred. No. 1.7e-09;
                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 3; Length 214;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, VG
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/469,427A
FILING DATE: 06-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
CLASSIFICATION DATA:
CLASSIFICATION DATA:
CLASSIFICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
APPLICANT: Eriksson, Ulf
APPLICANT: Olofsson, Bir
APPLICANT: Alitalo, Kari
APPLICANT: Pajusola, Kat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO: 35: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Pajusola, TITLE OF INVENTION: 1
FILING DATE: 01-MAR-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/586,039
FILLING DATE: 16-JAN-1996
APPLICATION NUMBER: 08/124,259
FILLING DATE: 20-SEP-193
APPLICATION NUMBER: 07/676,436
FILLING DATE: 28-MAR-1991
                                                                                                                                                                                                                                                                         CITY: Washington
STATE: DC
ZIP: 20005
                                       APPLICATION NUMBER: US 08/397,651
                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Evenson, McKeown, Edwards & Lenahan STREET: 1200 G Street, N.W., Suite 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Microsoft Word 6 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/09/699,769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 35:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 APTTEGEQKSHEVIKFMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APTTEGEQKAHEVVKFMDVY 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 214 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: Hand, J. Mark REGISTRATION NUMBER: 36,545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (732) 594-3905
TELEFAX: (732) 594-4720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: 30-Oct-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                       , Katri
VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND
DNA CODING THEREFOR
                                                                                                                          US/08/469,427A
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Pred. No. 1.7e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
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                                                                                                                                                                      Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 214;
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REGISTRATION NUMBER:

26,269

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RESULT 11
5219739-11
;Patent No. 5219739
;Patent No. 5219739
; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES,
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5194596-11
;Patent No. 5194596
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5194596-11
                                              5219739-11
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                                                                                                                                                                                                                           ;JOHN C.;MITCHELL, RICHARD L.
TITLE OF INVENTION: DAA SEQUENCES ENCODING BVEGF120 AND;
HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
;VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO:11:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C.; MITCHELL, RICHARD L.
TITLE OF INVENTION:
                                                                          SEQ ID NO:11:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO: 15: SEQUENCE CHARACTERISTICS: LENGTH: 189 amin
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/
FILING DATE: 14-DEC-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: TISCHER,
                                                                                                                                                                                                CURRENT APPLICATION DATA:
                                                                                                                                                     PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: 41979cp2
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                NUMBER OF SEQUENCES: 40
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                                                            LENGTH:
                                                                                       APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                              APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-JUL-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27
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                                                                                                                                                                                                                                                                                                                                                                                     APMAEGGQKPHEVVKFMDVY 21
                                                                                                                                                                                                                                                                                                                                                                                                           APTTEGEQKSHEVIKFMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APTTEGEOKSHEVIKE-DVY 45
                                                             21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
                                                                                                                                                                                                                                                                                                                                                                                                                                                            71.1%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRODUCTION OF VASCULAR ENDOTHELIAL CELL
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95.0%;
71.1%;
75.0%;
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Score 81;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 81; DB 6;
Pred. No. 3e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 89.5; DB 1; Pred. No. 1.3e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
DB 6;
3e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 6;
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              Length 21;
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PATENT APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN C.,MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:
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5194596-21
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                                                                                                                                                                RESULT 14
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APPLICANT: FERRARA, NAPOLEONE;LEUNG, TITLE OF INVENTION: PRODUCTION OF VA.

;GROWTH FACTOR AND DNA ENCODING SAME
;NUMBER OF SEQUENCES: 15
;CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5332671-14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;Patent No. 5194596
APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOI,C.;MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO:21:
LENGTH: 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GROWTH FACTOR
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                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
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Best Local Similarity
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APPLICATION DATE: 04-AUG-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 369,424
PILING DATE: 21-UN-1989
APPLICATION UMBER: 351,117
PILING DATE: 12-MAY-1989
                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/0
FILING DATE: 14-DEC-1989
                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 27-JUL-1989
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APPLICATION NUMBER:
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75.0%;
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US/07/559,041
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Pred. No.
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OF VASCULAR ENDOTHELIAL CELL
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                                               BVEGF120 AND HVEGF121
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RESULT 15
5194596-9
;Patent NO. 5194596
; Patent NO. 5194596
; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN
;C.;MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
;GROWTH FACTOR
NUMBER OF SEQUENCES: 32
;CURRENT APPLICATION DATA:
;APPLICATION NUMBER: US/07/450,883
;FILING DATE: 14-DEC-1989
;PRIOR APPLICATION DATA:
;APPLICATION NUMBER: 387,545
;FILING DATE: 27-JUL-1989
;SEQ ID NO:9:
LENGTH: 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; FILING DATE: 27-JUL-1990
; PRIOR APPLICATION DATA;
; APPLICATION NUMBER: 450,883
; FILING DATE: 14-DEC-1989
; APPLICATION NUMBER: 387,545
; APPLICATION NUMBER: 387,545
; FILING DATE: 27-JUL-1989
; SEQ ID NO:26:
; LENGTH: 41
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Search completed: January 30, 2004, 11:47:51 Job time: 8.93846 secs
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                                                                                                                                                     Query Match 71.1%; Score 81; DB 6; Length 120; Best Local Similarity 75.0%; Pred. No. 2.2e-06; Matches 15; Conservative 1; Mismatches 4; Indels
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Maximum Match 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score
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seq
        Published Applications AA:*

1: /cgn2 6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep:*

5: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*

6: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*

7: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*

8: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*

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length: 2000000000
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209.978 Million cell updates/sec
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/ Cgn2_6/ptodata/2/pubpaa/US09C PUBCOMB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/US09C PUBCOMB.pep:*
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US-09-921-143-7
2 US-09-921-143-7
2 US-10-071-370A-2
2 US-10-166-941-5
US-10-150-046-5
US-10-150-046-5
US-10-155-492-5
5 US-10-156-941-4
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US-09-998-831-11
US-10-373-561-11
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Sequence 1, Ap
Sequence 1, Ap
Sequence 11,
Sequence 11,
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22, Appl
22, Appl
22, Appli
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154	150	147	147	147	147	147	145	145	145	145	145	141	121	110	110	110	110	110	110	110	110	26	26	26	26	26	14	25	25
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-09-832-355A-	US-09-832-355A-61	US-10-268-447-2	-817-	US-10-418-529-2	-10-392-	.0-346-802-	0-268-447-	-817-	0-418-529-	0-392-931-	US-10-319-828-2	US-10-298-794-2	US-09-832-355A-1	US-10-268-447-11	-10-083-817-	-10-418-529-			US-10-392-931-10	US-10-342-371-17	US-09-822-270-17	-716	-10-376-194-	US-10-373-561-10	US-09-998-831-10	US-09-738-970-2	US-10-071-370A-7	-10-375-716-3	US-10-376-194-1
Sequence 59	Φ	æ	O	Sequence 2,	æ	Sequence 4,	Sequence 4		Sequence 4	O			Sequence 1,	Sequence 1:	Ø	መ			Sequence 10	Sequence 17	Sequence 17	w	Sequence 2,	_	e L	Seguence 2,	Sequence 7	e u	Sequence 1
9, Appl	•			, Appli	, Appli	, Appli	, Appli	, Appli	, Appli	, Appli	, Appli			1, Appl	•	1, Appl	-	1, Appl	-		, Appl	1, Appl	, Appli	0, Appl	0, Appl	Appli	, Appli	0, Appl	, Appli

ALIGNMENTS

RESULT 1 US-09-349-954A-22

Sequence 22, Application US/09349954A Patent No. US20020019027A1

GENERAL INFORMATION:
APPLICANT: Hayward,
APPLICANT: Weber, G
APPLICANT: Grimmond

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SOFTWARE: PatentIn V
SEQ ID NO 22
LENGTH: 214
TYPE: PRT
ORGANISM: mVEGF188
US-09-349-954A-22
RESULT 2
US-09-907-007-22
; Sequence 22, Application US/09907007
; Patent No. US20020142395A1
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                                                                                                                                                                                                   Query Match
Best Local S
Matches 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Hayward, Nicholas K.
APPLICANT: Meber, Gunther
APPLICANT: Grimmond, Sean
APPLICANT: No. US20020019027Aldenskjold, Magnus
APPLICANT: Larsson, Catharina
TITLE OF INVENTION: A NOVEL GROWTH FACTOR AND A GENETIC SEQUENCE ENCODING
TITLE OF INVENTION: SAME
FILE REFERENCE. 7--- 7---
                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: COL. Cave
FILE REFERENCE: DAV. COL. Cave
CURRENT APPLICATION NUMBER: US/09/349,954A
CURRENT FILING DATE: 1999-07-08
CURRENT FILING DATE: 1999-07-08
                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER:
PRIOR FILING DATE: 1996-C
NUMBER OF SEQ ID NOS: 22
                                                                                                                           27
                                                                                                                                                                                                   20;
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                                                                                                                                                                                                                       Similarity
                                                                                                                         APTTEGEOKSHEVIKEMDVY 46
                                                                                                                                                                                                                                                                                                                                                                             PatentIn Ver. 2.1
                                                                                                                                                                                               92.1%; Score 105; DB 9; ilarity 100.0%; Pred. No. 4.4e-09; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                 1996-02-22
                                                                                                                                                                                                                                      Length 214;
                                                                                                                                                                                                   Indels
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RESULT 4
US-10-071-370A-2
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US-09-907-007-22
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SEQ ID NO 7
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Publication No. US20030215921A1
GENERAL INFORMATION:
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SEQ ID NO 22
LENGTH: 214
                                                                                                                                                                                     Sequence 2, Application US/10071370A Publication No. US20030045471A1
                                                                                                                                                                                                                                                                                                                                                                            Matches
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Best Local Similarity
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Best Local Similarity
                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Grimmond, Sean
APPLICANT: No. US20020142395Aldenskjold, Magnus
APPLICANT: No. US20020142395Aldenskjold, Magnus
APPLICANT: Larsson, Catharina
TITLE OF INVENTION: A NOVEL GROWTH FACTOR AND A GENETIC SEQUENCE ENCODING
TITLE OF INVENTION: SAME
FILE REFERENCE: DAVIES
CURRENT APPLICATION NUMBER: US/09/907,007
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: 08/765,588
PRIOR FILING DATE: 1996-02-22
NUMBER OF SEQ ID NOS: 22
                                                      APPLICANT: Bayne, Marvin L.
APPLICANT: Conn, Gregory L.
APPLICANT: Thomas, Jr., Kenneth A.
TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
TITLE OF INVENTION: II
FILE REFERENCE: 18199CB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Coleman, Timothy
TITLE OF INVENTION: Vascular Endothelial Growth Factor-2
FILE REFERENCE: PF112P6
CURRENT APPLICATION NUMBER: US/09/921,143
CURRENT FILING DATE: 2001-08-03
CURRENT APPLICATION NUMBER: US/10/071,370A CURRENT FILING DATE: 2002-02-08 PRIOR APPLICATION NUMBER: 09/326,879
                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
ORGANISM: homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ENGTH: 190
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                                                                                                                                                                                                                                                                                                                                                                            Conservative
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Pred. No. 1.7e-08;
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RESULT 6 US-10-150-046-5

Sequence 5, Application US/10150046
Publication No. US20030100072A1
GENERAL INFORMATION:
APPLICANT: Ferrara, Napoleone
APPLICANT: Leung, David Wai-Hung
TITLE OF INVENTION: Production of Vascular Endothelial Cell Growth Factor
TITLE OF INVENTION: and DNA Encoding Same

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US-10-071-370A-2
                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/10/166,941
CURRENT FILING DATE: 2002-06-10
PRIOR APPLICATION NUMBER: US 08/904,334
PRIOR FILING DATE: 1997-07-31
PRIOR APPLICATION NUMBER: US 08/561,560
PRIOR FILING DATE: 1995-11-22
PRIOR APPLICATION NUMBER: US 08/306,213
PRIOR APPLICATION NUMBER: US 08/306,213
PRIOR APPLICATION NUMBER: US 08/306,213
                                                                                                                                                                                                          SEQ ID NO 5
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                                                                                                            Query Match
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Best Local Similarity
                                                                            Matches
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APPLICANT: Leung, David Wai-Hung
TITLE OF INVENTION: Production of Vascular Endothelial Cell Growth Factor
TITLE OF INVENTION: and DNA Encoding Same
FILE REFERENCE: P0586C8
                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: US 07/351,117
PRIOR FILING DATE: 1989-05-12
                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: US 08/047,756 PRIOR FILING DATE: 1993-04-15
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PRIOR FILING DATE: 1993-01-05
PRIOR APPLICATION NUMBER: 07/586,638
PRIOR FILING DATE: 1990-09-21
                                                                                                                                                                                          LENGTH: 39
                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS: 9
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PRIOR APPLICATION NUMBER: 08/299,185
PRIOR FILING DATE: 1994-08-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR FILING DATE: 1999-06-07
PRIOR APPLICATION NUMBER: 09/038,199
                                                                                                                                                                      ORGANISM: Bovine
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                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18;
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                    1 APTTEGEQKSHEVIKFMDVY 20
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APMAEGGOKPHEVVKFMDVY 20
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                                                                            Conservative
                                                                                          71.1%;
75.0%;
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                                                                        Score 81; DB 15;
Pred. No. 5.5e-06;
1; Mismatches 4
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Pred. No. 1.7e-08;
                                                                                                              Length 39;
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; ORGANISM: Bovine
US-10-177-485-5
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LENGTH: 39
TYPE: PRT
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Best Local S
Matches 15
                                                                     Query Match
Best Local Similarity
Matches 15; Conserv
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SEQ ID NO 5
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-10-150-046-5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/10/177,485
CURRENT FILING DATE: 2002-66-20
PRIOR APPLICATION NUMBER: US 08/979,105
PRIOR FILING DATE: 1997-11-26
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PRIOR FILING DATE: 1996-11-15
PRIOR APPLICATION NUMBER: US 08/459,385
PRIOR FILING DATE: 1995-06-02
PRIOR APPLICATION NUMBER: US 08/306,213
PRIOR FILING DATE: 1994-09-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 08/749,709
PRIOR FILING DATE: 1996-11-15
PRIOR APPLICATION NUMBER: US 08/460,370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Leung, David Wai-Hung
TITLE OF INVENTION: Production of Vascular Endothelial Cell Growth Factor
TITLE OF INVENTION: and DNA Encoding Same
FILE REFERENCE: P0586P1C9
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PRIOR FILING DATE: 1993-04-14
PRIOR APPLICATION NUMBER: US 07/351,117
PRIOR FILING DATE: 1989-05-12
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CURRENT APPLICATION NUMBER: US/10/150,046
CURRENT FILING DATE: 2002-08-26
                                                                                                                                                                                                                                                                            PRIOR APPLICATION I PRIOR FILING DATE:
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APPLICANT: Leung, David Wai-
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PRIOR FILING DATE: 1997-11-26
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                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US 07/351,117
                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 1993-05-13
APPLICATION NUMBER: US 07/772,399
                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US 08/062,489
                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US 08/410,378 FILING DATE: 1995-03-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 1995-06-02
                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US 07/369,424
                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 1991-10-07
                                                                                                                                                                                                                                                                                                                     LING DATE:
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15; Conserv
APMAEGGQKPHEVVKFMDVY 20
                          APTTEGEQKSHEVIKFMDVY 20
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                                                                             Conservative
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                                                                                            71.1%;
75.0%;
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75.0%;
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; Pred. No. 5.5e
1; Mismatches
                                                                                            Score 81;
Pred. No.
                                                                             Mismatches
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                                                                                                                Length 39;
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; LENGTH: 39
; TYPE: PRT
; ORGANISM: Bovine
US-10-155-492-5
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; ORGANISM: Bovine 
US-10-166-941-4
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US-10-155-492-5
                                                                                                                                                               FILE REFERENCE: POS86C8
CURRENT APPLICATION NUMBER: US/10/166,941
CURRENT FILING DATE: 2002-06-10
PRIOR APPLICATION NUMBER: US 08/904,334
PRIOR FILING DATE: 1997-07-31
PRIOR APPLICATION NUMBER: US 08/561,560
PRIOR FILING DATE: 1995-11-22
PRIOR APPLICATION NUMBER: US 08/306,213
PRIOR APPLICATION NUMBER: US 08/306,213
PRIOR FILING DATE: 1994-09-14
PRIOR APPLICATION NUMBER: US 08/047,756
PRIOR APPLICATION NUMBER: US 07/351,117
PRIOR APPLICATION NUMBER: US 07/351,117
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                                                                                                               SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 4, Application US/10166941
Publication No. US20030092617A1
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Best Local
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APPLICANT: Leung, David Wai-Hung
APPLICANT: Leung, David Wai-Hung
APPLICANT: Leung, David Wai-Hung
APPLICANT: Leung, David Wai-Hung
APPLICANTON: and DNA Encoding Same
FILE OF INVENTION: and DNA Encoding Same
FILE REFERENCE: P0586P1C8
CURRENT APPLICATION NUMBER: US/10/155,492
CURRENT FILING DATE: 2002-05-24
PRIOR APPLICATION NUMBER: US 08/901,544
PRIOR FILING DATE: 1997-07-28
PRIOR FILING DATE: 1997-07-28
PRIOR PELING DATE: 1996-08-09
PRIOR PILING DATE: 1996-08-09
PRIOR PILING DATE: 1996-08-09
PRIOR FILING DATE: 1996-08-09
PRIOR FILING DATE: 1995-03-27
PRIOR FILING DATE: 1995-03-27
PRIOR FILING DATE: 1995-03-27
PRIOR FILING DATE: 1995-03-27
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PRIOR FILING DATE: 1993-05-13
PRIOR APPLICATION NUMBER: US 07/772,399
PRIOR FILING DATE: 1991-10-07
PRIOR APPLICATION NUMBER: US 07/369,424
PRIOR FILING DATE: 1989-06-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Ferrara, Napoleone
APPLICANT: Leung, David Wai-Hung
TITLE OF INVENTION: Production of Vascular Endothelial Cell Growth Factor
TITLE OF INVENTION: and DNA Encoding Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: US 07/351,117 PRIOR FILING DATE: 1989-05-12
                                                                                                                                          NUMBER OF SEQ ID NOS:
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                                                         TYPE: PRT
                                                                              ENGTH:
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75.0%;
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1; Mismatches
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Pred. No. 5.
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APPLICANT: Leung, David Wal-Hung
TITLE OF INVENTION: Production of Vascular Endothelial Cell Growth Factor
TITLE OF INVENTION: and DNA Encoding Same
FILE REFERENCE: P0586F1C9
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APPLICANT: Leung, David Wal-Hung
TITLE OF INVENTION: Production of Vascular Endothelial Cell Growth Factor
TITLE OF INVENTION: and DNA Encoding Same
FILE REFERENCE: P0586C7
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PRIOR FILING DATE: 1997-11-26
                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/10/177,485
CURRENT FILING DATE: 2002-06-20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: US 08/978,791 PRIOR FILING DATE: 1997-11-26
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CURRENT FILING DATE: 2002-08-26
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TYPE: PRT
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APPLICATION NUMBER: US (
APPLICATION NUMBER: US (
                                                                                                                      APPLICATION NUMBER: US 08/460,370 FILING DATE: 1995-06-02
                                                                                                                                                              APPLICATION NUMBER: US 08/749,709 FILING DATE: 1996-11-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 1996-11-15
APPLICATION NUMBER: US 08/459,385
FILING DATE: 1995-06-02
                                            APPLICATION NUMBER: US 08/062,489 FILING DATE: 1993-05-13
                                                                                  APPLICATION NUMBER: US 08/410,378 FILING DATE: 1995-03-27
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27 APMAEGGQKPHEVVKFMDVY 46
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75.0%;
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                        07/772,399
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Pred. No. 1.4e-05;
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Pred. No.
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US-09-738-970-1

Sequence 1, Application US/09738970 Patent No. US20020037289A1 GENERAL INFORMATION:

APPLICANT: Thorpe, Philip E.
APPLICANT: Burrows, Francis J.
TITLE OF INVENTION: Methods and Compositions for Targeting
TITLE OF INVENTION: the Vasculature of Solid Tumors
NUMBER OF SEQUENCES: 3

CORRESPONDENCE ADDRESS:

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; ORGANISM: Bovine
US-10-155-492-4
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US-10-155-492-4
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SEQ ID NO 4
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CURRENT APPLICATION NUMBER: US/10/155,492
CURRENT FILING DATE: 2002-05-24
PRIOR APPLICATION NUMBER: US 08/901,544
PRIOR FILING DATE: 1997-07-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR FILING DATE: 1989-06-21
PRIOR APPLICATION NUMBER: US 07/351,117
PRIOR FILING DATE: 1989-05-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Leung, David Wai-Hung
TITLE OF INVENTION: Production of Vascular Endothelial Cell Growth Factor
TITLE OF INVENTION: and DNA Encoding Same
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Ferrara, Napoleone APPLICANT: Leung, David Wai-
                                                                                                                                                                                                                                            PRIOR FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                 PRIOR FILING DATE: 1996-08-09
PRIOR APPLICATION NUMBER: US 08/410,378
PRIOR FILING DATE: 1995-03-27
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                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: US 07/772,399
PRIOR FILING DATE: 1991-10-07
                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: US 08/062,489
PRIOR FILING DATE: 1993-05-13
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TYPE: PRT
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                                                                    Local Similarity es 15; Conserv
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                  1 APTTEGEQKSHEVIKFMDVY 20
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No. US20030114374A1
APMAEGGOKPHEVVKFMDVY 46
                                                                    Conservative
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75.0%;
                                                                                    71.18;
75.08;
                                                                                      Score 81; DB 15;
Pred. No. 3.2e-05
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Pred. No. 3.2e-05;
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COMPUTER READABLE FORM:

COUNTRY: United States of America

CITY: Houston

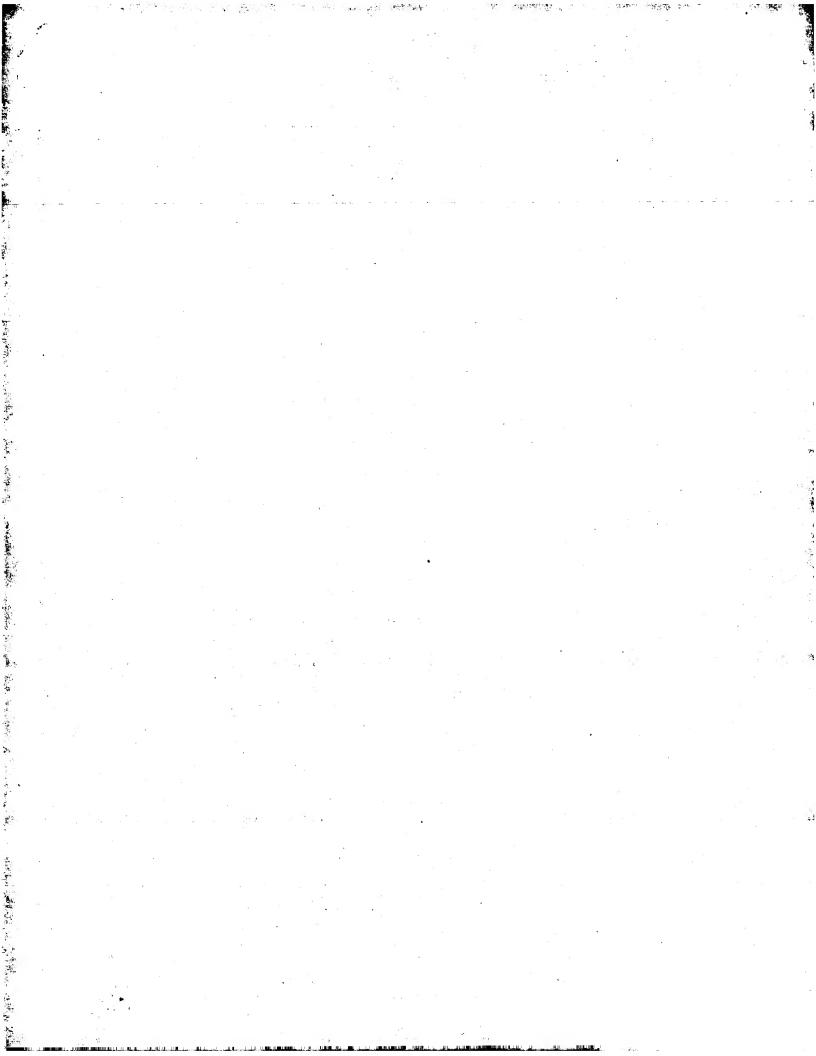
ADDRESSEE: Arnold, White & Durkee

P.O. Box 4433

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; OTHER INFORMATION: Description of Artificial Sequence: , OTHER INFORMATION: PEPTIDE US-09-998-831-11
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                                                                                                    CURRENT APPLICATION NUMBER: US/09/998,831
CURRENT FILING DATE: 2001-11-30
PRIOR APPLICATION NUMBER: 09/561,108
PRIOR FILING DATE: 2000-04-28
NUMBER OF SEQ ID NOS: 44
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 11
LENGTH: 25
TYPE: THE
                                                                                                                                                                                                                                                                                                                                                      Sequence 11, Application UP Patent No. US20020119153A1
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INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                            APPLICANT: ROIF A. Brekken
TITLE OF INVENTION: ANTIBOTY CONJUGATE COMPOSITIONS FOR SELECTIVELY
TITLE OF INVENTION: INHIBITING VEGF
FILE REFERENCE: 4001.002584
                                                                                                                                                                                                                                                                                                   APPLICANT: Philip E. Thorpe
APPLICANT: Rolf A. Brekken
                                                  TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (512) 418-3000
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APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Rel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MPUTER REAUABUS .... MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS/ASCII PC-DOS/MS-DOS/ASCII Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: (51 TELEFAX: (713)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: FILING DATE: March
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CLASSIFICATION:
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5, 1992
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Pred. No.
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Search completed: January 30, 2004, 12:15:01 Job time: 20.9096 secs
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US-10-373-561-11
                                                                                                                                                                                          US-10-373-561-11
                                                                                                                                                                                                                                                                                                                            FILE REFERENCE: 4001.002582
CURRENT APPLICATION NUMBER: US/10/373,561
CURRENT FILING DATE: 2003-02-24
PRIOR APPLICATION NUMBER: US/09/561,499
PRIOR APPLICATION NUMBER: US/09/561,499
PRIOR APPLICATION NUMBER: 60/131,432
PRIOR FILING DATE: 1999-04-28
PRIOR FILING DATE: 1999-04-28
NUMBER OF SEQ ID NOS: 44
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Best Local Similarity '5...
15; Conservative
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SEQ ID NO 11
LENGTH: 25
                                                                                                                             Matches
                                                                                                                                          Query Match
Best Local Similarity
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APPLICANT: Philip E. Thorpe
APPLICANT: Rolf A. Brekken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 11, Application US/10373561 Publication No. US20030175276A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: ROLF A. Brekken
TITLE OF INVENTION: ANTIBODY METHODS FOR SELECTIVELY INHIBITING VEGF
                                                                                                                                                                                                       OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                     TYPE: PRT ORGANISM: Artificial Sequence
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                                                             1 APTTEGEOKSHEVIKFMDVY 20
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                                                                                                                          Conservative
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Pred. No.
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ALIGNMENTS

C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
C;Accession: B44881; A43351; A61029
R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.

vascular endothelial growth factor-1 precursor - mouse

B44881

Development 114, 521-532, 1992
A;Title: Expression of vascular endothelial growth factor during A;Reference number: A44881; MUID:92274860; PMID:1592003
A;Accession: B44881

embryonic angiogenesis

A; Molecule type: mRNA A; Residues: 1-190 < BRE>

Cross-references: GB:S38083; NID:g249858; PIDN:AAB22253.1; PID:g249859

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vascular endothelial growth factor-3 precursor - mouse N;Contains: vascular endothelial growth factor-2; vascular permeability factor C;Species: Mus musculus (house mouse) C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 08-Oct-1999 C;Accession: A44881; C44881; A60932; S52136 R;Breier G; Albrecht, U; Sterrer, S.; Risau, W. Development 114, 521-532, 1992
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A; Residues: I-116; ER, (119-190 < CLA>
A; Residues: I-116; ER, (119-190; NID: g202350; PIDN: AAA40547.1;
A; Note: sequence extracted from NCBI backbone (NCBIN: 110665,
A; Note: sequence extracted from NCBI backbone (NCBIN: 110665,
A; Note: sequence extracted from NCBI backbone (NCBIN: 110665,
A; Note: sequence extracted from NCBI backbone (NCBIN: 110665,
A; Title: Conditioned medium from mouse sarcoma 180 cells cont
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A;Note: sequence extracted from NCBI backbone (NCBIN:107622, NCBIP:107623)
R;Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M.
J. Biol. Chem. 267, 16317-16322, 1992
A;Title: Vascular endothelial growth factor. Regulation by cell differentiation and A;Reference number: A43351; MUID:92355593; PMID:1644816
A;Accession: A43351
                                                                                                                                                                                                                   A44881
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A;Molecule type: protein
A;Residues: 27-38 <ROS>
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RESULT 4
S52130
C;Species: Sus scrofa
C;Date: 14-Jul-1995 #s
C;Accession: S52130
                    vascular endothelial growth factor - pig
C/Species: Sus scrofa domestica (domestic pig)
C/Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change
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A;Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that A;Reference number: A35987; MUID:90207249; PMID:2320579
A;Accession: A35987
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A; Residues: 27-33 < CLA>
R; Residues: 27-33 < CLA>
R; Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa, R.
Biochim. Biophys. Acta 1224, 365-370, 1994
Biothim. Enhanced expression of multiple forms of VEGF is
A; Title: Enhanced expression of multiple forms of VEGF is
A; Reference number: S52136; MUID: 95101726; PMID: 7803491
A; Accession: S52136
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A;Cross-references: GB:S38109; NID:g249860; PIDN:AAB22254.1; PID:g249861
A;Cross-references: GB:S38109; NID:g249860; OCBIN:107624, NCBIP:107625)
A;Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBIP:107625)
R;Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; Familletti, P.C.; Pan, Y.C.
J. Exp. Med. 172, 1535-1545, 1990
A;Title: Vascular permeability factor: a tumor-derived polypeptide that induces endothel A;Reference number: A60932; MUID:91079755; PMID:2258694
A;Accession: A60932
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A; Residues: 1-190 < CON>
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A;Title: Vascular endothelial growth factor is a secret. A;Reference number: A40080; MUID:90069608; PMID:2479986
A;Accession: B40080
                                                                                                                                                                                                                                                   A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007 R;Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Biochem. Biophys. Res. Commun. 165, 1198-1206, 198 A;Title: Vascular endothelial growth factor: a new member of the platelet-A;Reference number: A33787; MUID:90121225; PMID:2610687 A;Accession: B33787
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                                                                                 R;Ferrara, N.; Henzel, W.J.
Biochem. Biophys. Res. Commun. 161, 851-858, 1989
A;Title: Pituitary follicular cells secrete a nove
                                                                                                                                                               A;Molecule type: mRNA
A;Residues: 27-190 <TIS>
A;Cross-references: GB:M31836; NID:g163808; PIDN:AAA30804.1;
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A; Residues: 1-190 < LEU>
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                                                       A; Reference number: A33255; MUID: 89286596; PMID: 2735925
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type: protein
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novel heparin-binding growth

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PID:g163809

of the platelet-derived

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Lau,

K., Crisp

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R;Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; verdouw, F.D.
Blochim. Blophys. Acta 1260, 235-238, 1995
A;Title: Nucleotide sequence and expression of the porcine vascular endothelial growth A;Reference number: S52130; MUID:95143284; PMID:7841203
A;Accession: S52130
A;Accession: S52130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vascular endothelial growth factor (version 1) - bovine C;Species: Bos primigenius taurus (cattle) C;Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999 C;Accession: A33787
              vascular endothelial growth factor precursor (version 2) - bovine (;Species: Bos primigenius taurus (cattle) (c.) polate: 30-Jun-1992 #sequence revision 30-Jun-1992 #text_change 05-Nov-1999 (c.) Date: 30-Jun-1992 #sequence revision 30-Jun-1992 #text_change 05-Nov-1999 (c.) Accession: B40080; B33787; A33255
                                                                                                                                                                                                                                                                                                                                                                                                     A;Molecule type: mRNA
A;Residues: 1-120 <TIS>
A;Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
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Best Local Similarity
Watches 15; Conserv
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A;Title: Vascular endothelial growth factor: a new member of the platelet-derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: GB:X81380; NID:g587559; PIDN:CAA57143.1; PID:g587560
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A; Residues: 1-190 < SHA>
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Pred. No.
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Pred. No. 6.4e-06;
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1.3e-06;
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D.V.; Ferrara,
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A;Residues:
C;Keywords:
F;1-26/Domain
                                                                                                                                                                                                                                                                                     ovine vascular endothelial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon aries C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R;Senger, D.R.; Connolly, D.T.; Van De Water, L.; Feder, J.; Dvorak, H.F. Cancer Res. 50, 1774-1778, 1990
A;Title: Purification and MH-2-terminal amino acid sequence of guinea pig tumor-secreted A;Reference number: A60544; MUID:90167668; PMID:2155059
A;Accession: A60544
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A60706
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A;Title: Tumor vascular permeability factor stimulates endothelial cell growth and angic
A;Reference number: A60706; MUID:90037570; PMID:2478587
A;Accession: A60706
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R;Redmer, D.A.; Dai, Y.; Li,
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A;Accession: S57956
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Date: 14-May-1993 #sequence_revision 14-May-1993 #text_change 17-Mar-1999
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                                                                                  Query Match
Best Local
                                                                                                                                     Cross-references:
                                                                    Matches
                                                                                                                                                   Molecule type: mRNA
Residues: 1-146 <RED>
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 APMAEGGQKPHEVMKFMDVY
                              APTTEGEOKSHEVIKFMDVY 20
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RESULT 9

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A;Cross-references: GB:M27281; NID:g340300; PIDN:AAA36807. R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Science 246, 1306-1309, 1989
A;Title: Vascular endothelial growth factor is a secreted A;Reference number: A40080; MUID:90069608; PMID:2479986
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                       A;Experimental source: AIDS-Kaposi's sarcoma cell R;Connolly, D.T.; Olander, J.V.; Heuvelman, D.; N J. Biol. Chem. 264, 20017-20024, 1989
                                                                                                                                                                                  A;Residues: 1-140,'N',183-232 <WEI>
A;Cross-references: EMBL:X62568; NID:g37658; PIDN:CAA44447.1;
A;Experimental source: AIDS-Kaposi's sarcoma cell
                                                                                                                                                                                                                                                                                              R; Weindel, K.; Marme, D.; Weich, H.A.

Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
A; Title: AIDS-associated Kaposi's Barcoma cells in culture
A; Reference number: JQ1463; MUID:92231879; PMID:1567395
A; Accession: JQ1463
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: DNA
A;Residues: 1-140,'N',183-232 <TI2>
A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63977;
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A;Title: The vascular endothelial growth factor family: identification of a A;Reference number: A41551; MUID:92168017; PMID:1791831
A;Accession: A41551
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A; Residues: 1-140,'N', 183-232 <LEU>
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A; Residues: 1-165, 183-232
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A; Residues: 1-232 < HOU1>
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                                                                                                                                                                                                                                                                         A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Status: not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Residues: 1-141, 227-232 <TI3>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Molecule type: mRNA
A;Residues: 1-140,'N',183-232 <HOU2>
                                                                                                                                   A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: GB:M32977;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Residues: 1-165,183-232 < KEC>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Status: not compared with conceptual translation
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Accession: B41551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;Cross-references: GB:S85192; NID:g246155; ;Accession: C41551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Status: nucleic acid sequence not shown; not compared with conceptual translation
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Accession: C40454
                                                                                                         1-140,'N',227-232 <WE2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1-141,227-232 <HOU>
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MUID:91268072; PMID:1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NID:g340300; PIDN:AAA36807.1; PID:g340301
Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                NID:g181970; PIDN:AAA35789.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GB:M63972;
factor. Isolation from U937 cells.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GB:M63973;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     helial growth
PMID:1711045
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                                                 Nelson,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       M.; Gospodarowicz,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GB:M63974;
                                                 R.; Monsell, R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  factor.
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                                                                                                                                                                                                                                                                                                                                                              express vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                PID:g181971
                                                                                                                                                                                                                     PID: 937659
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D.W.
                                                 Siegel,
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hypothetical protein At2g40920 [imported] - Arabidopsis thaliana
N;Alternate names: hypothetical protein T20B5.12
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 12-Reb-1999 #sequence_revision 12-Feb-1999 #text_change 16-Feb-2001
C;Accession: T00756; E84835
R;Rounsley, S.D.; Lin, X.; Ketchum, K.A.; Crosby, M.L.; Brandon, R.C.; Sykes, submitted to the EMBL Data Library, November 1997
A;Bescription: Arabidopsis thaliana chromosome II BAC T20B5 genomic sequence.
A;Reference number: Z14159
A;Accession: T00756
                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 11
T00756
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A;Rolecule type: protein
A;Residues: 27-36;43-49,'R';72-76,'Q',78-81;59-71 <CON>
A;Residues: 27-36;43-49, 'R';72-76,'Q',78-81;59-71 <CON>
A;Residues: 1-436 <ROU>
A;Cross-references: EMBL:AC002409; NID:g2623294;
A;Experimental source: cultivar Columbia
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A;Reference number: Z19309
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A;Cross-references: GDB:132244; OMIM:192240
A;Map position: 6p21-6p12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Reference number: A; Accession: T20686
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                                                                           A; Molecule type: DNA
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                                                                                                         Status: translated from GB/EMBL/DDBJ
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Best Local
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Similarity 62.5%;
10; Conservative
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66.7%;
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Pred. No. 7.1;
2; Mismatches
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                             PID:g2623306
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A;Molecule type: DNA
A;Residues: 1-113 <KUR>
A;Cross-references: GB:AE001437; PIDN:AAK78330.1; PID:g15023196; GSPDB:GN00168
A;Experimental source: Clostridium acetobutylicum ATCC824
                                                                                                                                                                                                                                                                                                                                                                                                     R;Nolling, J.; Breton, G.; Omelchenko, M.V.; Markarova, K.; Daly, M.J.; Bennett, G.N.; Koonin, E.V.; Smith, D.R. J. Bacteriol. 183, 4823-4838, 2001
A;Title: Genome Sequence and Comparative Analysis of the A;Reference number: A96900; MUID:21359325; PMID:21359325, A;Accession: G96942
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                                                                                                                                                                                                                                                                                                                                                                      A; Status: preliminary
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submitted to the EMBL Data Library,
A;Reference number: Z18980
A;Accession: T18572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gag, pol and env protein precursor - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
C;Accession: T18572
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A; Introns: 35/3
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A;Map position: 2
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A; Residues: 1-436 <STO>
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A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana. A;Reference number: A84420; MUID:20083487; PMID:10617197
A;Accession: E84835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Species: Clostridium acetobutylicum;Date: 14-Sep-2001 #text_change 14-Sep-2001;Date: 14-Sep-2001 #sequence_revision 14-Sep-2001 #text_change 14-Sep-2001;Accession: G96942
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8; Conserv
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Score 44; DB
Pred. No. 7.7;
3; Mismatches
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Search completed: January 30, 2004, 11:46:15 Job time : 10.0462 secs
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J. Bacteriol. 183, 5709-5717, 2001
A;Authors: Yang, Y.; Young-Bellido, M.; Zhao, G.; Zook, C.; Baltz, R.H.; Jaskunas, S.R. A;Title: Genome of the Bacterium Streptococcus pneumoniae Strain R6.
A;Reference number: A97872; MUID:21429245; PMID:11544234
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C;Superfamily: 16S rRNA processing protein PA3744
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A;Experimental source: strain TIGR4
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A;Molecule type: DNA
A;Residues: 1-172 <KUR>
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A;Authors: Loftus, B.J.; Yang, F.; Smith, H.O.; Venter, J.C.; Dougherty, B.A.; Morrison.
A;Title: Complete Genome Sequence of a virulent isolate of Streptococcus pneumoniae.
A;Reference number: A95000; MUID:21357209; PMID:11463916
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Accession:
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A; Residues: 1-172 < KUR>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Species: Streptococcus pneumoniae
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         Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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                                                                        GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
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Q99ps1 mesocricetu
Q99kr0 equus cabal
P49151 sus scrofa
P15691 bos taurus
P50412 ovis aries
Q9myv3 canis famil
P26617 cavia porce
P15692 pallus gallus
P34431 caenorhabdi
Q977m5 streptococc
Q94738 strongyloce
P35601 mus musculu
Q87602 listeria mo
P94488 baccharomyc
P348120 cyanophora
P40360 saccharomyc
P31688 saccharomyc
P31688 saccharomyc
P31687 caenorhabdi
Q9zvf2 rarabidopsis
Q8p1f4 streptococc
P55045 streptococc
P55045 streptococc
P59163 streptococc
P59164 streptococc
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P16612 rattus norv
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0 pyrococcus
1 saccharomyc
6 homo sapien
1 rattus norv
9 vibrio chol
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7 cavia porce
2 homo sapien
2 gallus gall
1 caenorhabdi
5 streptococc
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6 bacillus su
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8 cyanophora
4 xenopus lae
7 caenorus lae
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SAP_HUMAN	GSA_CHLPN	ENO_ENTHR	RAPS_CHICK	BFTU_MYCGA	Y780 METJA	LIPA_RHIME	RS27_SCHPO	YN05_YEAST	TOP1_PSEAE	KF1B_RAT	YDKA SCHPO	
P07602 h proactiva	Q9jrw9 chlamydia p	Q8gr70 enterococcu	042393 gallus gall	P18906 mycoplasma		Q92q94 rhizobium m	074330 schizosacch	P53843 saccharomyc	Q9hzj5 pseudomonas	O88658 rattus norv	P87117 schizosacch	

ALIGNMENTS

88888888888888888888888888	RESUI VEGA. AC DT
MEDLINE-9235593; P Claffey K.P., Wilki "Vascular endotheli differentiation and J. Biol. Chem. 267: [3] SEQUENCE OF 1-3 FRO MEDLINE-96216498; P Shima D.T., Kuroki "The mouse gene for structure, definiti characterization of regulatory sequence J. Biol. Chem. 271: -i- FUNCTION: Growte endothelial cell proliferation, induces permeab VEGFRI/Fit-1 an heparin (By sim -i- SUBUNIT: Homodil with PIGF (By sim -i- SUBCELLULAR LOC Event-Alternati Name-VEGF-3; Sy Isold-000731- Name-VEGF-1; Sy Isold-000731- Name-VEGF-2; Sy Isold-000731- ISSUE SPECIFIC	SUL GA_

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RESULT 2
VEGA_RAT
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                                                                                                                P16612; Q9JKX7; Q9QXG6; Q9QXG7; 01-AUG-1990 (Rel. 15, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor permeability factor) (VPF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CONFLICT
SEQUENCE
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EMBL; 838083; AAB22253.1; -.
EMBL; 838100; AAB22254.1; -.
EMBL; M95200; AAA40547.1; -.
EMBL; M95200; AAA40547.1; -.
EMBL; U41383; -; NOT ANNOTATED CDS
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swArT; sM00141; pDGF; 1.
pROSITE; pS00249; pDGF 1; 1.
pROSITE; pS50278; pDGF 2; 1.
Mitogen; Angiogenesis; Growth factor;
Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=10116;
                                                                                               permeability factor)
VEGF OR VEGFA.
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InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
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PIR; B44881; B44881.
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                                                                          Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VARSPLIC
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                                                                                                                                                                                                                                                         EGA_RAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    117
214 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           email to license@isb-sib.ch).
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25283 MW;
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                            Chordata;
Rodentia;
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we splicing; Multigene family.
BY SIMILARITY.
VASCULAR ENDOTHELIAL GROWTH FACTOR A.
BY SIMILARITY.
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/FTId=VSP 004627.

Missing (In isoform VEGF-2).

/FTId=VSP 004628.

GE -> ER (IN REF. 2).
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                            Sciurognathi;
                                                   Craniata; Vertebrata; Euteleostomi;
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                                Muridae;
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TISUE=G11a1 cumv.;

MEDLINE=95221439; PubMed=7706320;

MEDLINE=95221439; PubMed=7706320;

DiSalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G.,

Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.;

"Purification and characterization of a naturally occurring vascular endothelial growth factor placenta growth factor heterodimer.";

J. Biol. Chem. 270:7717-7723(1995).

J. FUNCTION: Growth factor active in angiogenesis, vasculogenesis an endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces narmeabilization of blood vessels. It binds to the
EMBL; M32167; AAA41211.1; --
EMBL; AF215725; AAF19211.1; --
EMBL; AF215726; AAF19212.1; --
EMBL; AF222779; AAF25958.1; --
EMBL; AF222779; DAF25958.1; --
EMSE; P15692; TVPP.
                                                                                                                                                                                                                                                                                                                                                               This
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SEQUENCE FROM N.A. (ISOFORM VEGF-MEDLINE=90207249; PubMed=2320579;
                                                                                                                                                                                                                                           use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                          the European Bioinformatics Institute. There are no resume by non-profit institutions as long as its content
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(VEGF-A) splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   shii H., Arakawa T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                              Name=VEGF-A112, Jequence=VSF_004632;

ISOId=P16612-4; Sequence=VSP_004631;

TISSUE SPECIFICITY: Expressed In the pituitary, in brain, particularly in supraoptic and paraventricular nuclei and the choroid plexus. Also found abundantly in the corpus luteum ovary and in kidney glomeruli.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              after secretion and is bound avidly by heparin and extracellular matrix, although it may be released a form by heparin, heparinase or plasmin (By similari ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PIGF (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                   ovary and in kidney glomeruli. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Name=VEGF-A144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name=VEGF-A164;
IsoId=P16612-2; Sequence=VSP_004629,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Name=VEGF-A188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Event=Alternative splicing; Named isoforms=4; Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VEGF-A164 is more basic, has heparin-binding properties and, although a signicant proportion remains cell-associated, most is freely secreted. VEGF-A188 is very basic; it is cell-associated
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            induces permeabilization of blood vessels. It
VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to
                                                                                                                                                                                                                                                                                                                             SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IsoId=P16612-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FROM N.A. (ISOFORMS VEGF-A188; VEGF-A164; VEGF-A144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (DEC-1999)
                                                                                                                                                                                       email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   variants, VEGF-A188,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               to the EMBL/GenBank/DDBJ databases
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                                                                                                                                                                                                                  agreement (See http://www.isb-sib
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oota I., Takuma T., Inomata K. ular endothelial growth factor-A188, VEGF-A164, and VEGF-A120
                                                                                                                                                                                                                                                                                                        There are no restrictions
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nterPro;

; P15692; 1VPP. rPro; IPR000072; 1 ; PF00341; PDGF;

PD_growth_factor.

PD001629;

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RESULT 3
VEGA_MESAU
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Best Local S
Matches 18
                                                                                                 A YI X.J., Jiang H.Y., Lee K.K., Tang P.L., Chow P.H.;

"Expression of vascular endothelial growth factor (VEGF) and its

Treceptors during embryonic implantation in the golden hamster

I (Mesocricetus auratus).",

Cell Tissue Res. 296:339-349(1999).

Cell Tissue Res. 296:339-349(199).

Cell Tissue Res. 296:349-349(199).

Cell Tissue Res. 296:349-349(199).

Cell Tissue Res. 296:349-349(199).

Cell Tissue Res. 296:349-349(199).

Cell Tissue Res. 296:349-349
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CHAIN 27 214 V.
DISULFID 51 93 B.
DISULFID 82 127 B.
DISULFID 86 129 B.
DISULFID 86 76 II
DISULFID 85 85 II
CARBOHYD 100 100 N
VARSPELIC 140 140 K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPP).
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PROSITE; PS00249; PDGF_1; 1.

PROSITE; PS50278; PDGF_2; 1.

Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q99PS1;
28-FEB-2003
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15-SEP-2003
                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mesocricetus auratus (Golden hamster).
                                                                  similarity).
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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(Rel. 41, Last sequence update)
(Rel. 42, Last annotation updat
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/FTId=VSP_004629.
Missing (In isoform VEGF-A164)
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/ -> A (IN REF. :
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No. 1.
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SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its

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Best Local 9
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Q9GKRO;

28-FEB-2003 (Rel. 4

28-FEB-2003 (Rel. 4

28-FEB-2003 (Rel. 4
                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.

Miura N., Misumi K., Kawahara K., Nakashima M., Fukumitsu S.,

Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.;

"Cloning of cDNA and high-level expression of equine vascular

endotherial growth factor (VEGF).";

submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.

-I- FUNCTION: Growth factor active in angiogenesis, and endoth

cell growth. Induces endothelial proliferation and vascula

permeability (By similarity).

-I- SUBUNIT: Homodimer; disulfide-linked. Also found as hetero
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CHAIN
DISULFID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE;
between the Swiss Institute of Bioinformatics and the Extrement Bioinformatics Institute. There are no restude by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entitles requires a license agreement (See http://www.isb-or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Equus caballus (Horse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HORSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mitogen; Angiogenesis; Grov
Heparin-binding; Multigene
SIGNAL 1 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AF063013; AAK00049.1; -. HSSP; P15692; 1VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
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                                                                                                                                                                                              similarity).
SIMILARITY: BELONGS
                                                                                                                                                                                                                                     with PlGF (By similarity).
SUBCELLULAR LOCATION: Secreted but
to the extracellular matrix unless
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PS00274; PDGF_1; 1.
; PS50278; PDGF_2; 1.
; Angiogenesis; Growth factor; Glycoprotein; Signal; the properties of the p
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P49151; Q9GL52;
01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor
                                                                                                                                                                                      gene.";
Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
-I- FUNCTION: Growth factor active in angiogenesis, vascuendothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoperation of blood vessels. It binds to the parameter of the paramete
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CARBOHYD
SEQUENCE
between
the Euro
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LT 5
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SMART; SM00141; PDGF; 1.
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HSSP; P15692; 1VGH.
InterPro; IPR000072; PD_gro
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                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.

Lee T., Canty J.M.;

"PCR cloning of porcine cardiac vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mitogen,
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Mammalia; Eutheria;
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                                                                                                                                                                    heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               scrota
                                                                          similarity).
SIMILARITY: BELONGS
                                                                                                                                 with PIGF (By similarity).
SUBCELLULAR LOCATION: Secreted but
                 SWISS-PROT entry is copyright. It is produced through sen the Swiss Institute of Bioinformatics and the EN
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PS50278; PDGF_2; 1.
Angiogenesis; Growth factor; Glycoprotein; Signal;
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APMAEGEHKTHEVVKFMDVY 46
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                                                                          THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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VASCULAR ENDOTHELIAL (
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Sus.
                                                                                                                                                                                                                                                                                  vasculogenesis
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P15691;
01-APR-1990
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SMART; S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-APR-1990 (Rel. 14, Created)
01-APR-1990 (Rel. 14, Last sequence
28-FEB-2003 (Rel. 41, Last annotati
Vascular endothelial growth factor
permeability factor) (VPF).
Ferrara N., Henzel W.J.; "Pituitary follicular cells secrete a novel heparin-binding factor specific for vascular endothelial cells.";
                                                                                                                          Tischer E., Gospodarowicz D., Mitchell R., Silva M Lau K., Crisp T., Fiddes J.C., Abraham J.A., "Wascular endothelial growth factor: a new member derived growth factor gene family."; Blochem. Biophys. Res. Commun. 165:1198-1206(1989)
                                                                                                                                                                                                                                                                                                                           MEDLINE=90069608; PubMed=24/yyss;
MEDLINE=90069608; PubMed=24/yyss;
Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V.
Leung D.W., Cachianes G., Cach
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BOVIN
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                                                                                                                                                                                                                                SEQUENCE OF 27-190
MEDLINE=90121225;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eute
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora;
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
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EMBL; AF318502; AAG33064.1;
FIR; S52130; S52130.
HSSP; P15692; 1VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               use by non-profit institutions a modified and this statement is not entities requires a license agreeme
                                                                   MEDLINE=89286596; PubMed=2735925;
                                                                                        SEQUENCE OF 27-31.
                                                                                                                                                                                                                                                                                                 Science 246:1306-1309(1989).
                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bos taurus
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SM00141; PDGF; 1.
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    Last sequence update)
    Last annotation update)

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INTERCHAIN (BY SIMILARITY).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 1;
7.9e-07;
3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 noved. Usage by and for commercial
(See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                         ALPHA AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         as its content
                                                                                                                                                                           member of
                                                                                                                                                                                                               Silva M., Schilling J.,
                                                                                                                                                                                                                                                                                                                                                            D.V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (VEGF-A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             . .) (POTENTIAL)
                                                                                                                                                                                                                                                           BETA)
                                                                                                                                                                                                                                                                                                                                       V., Ferrara
langiogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Euteleostomi;
                                                                                                                                                                           the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (Vascular
                                                                                                                                                                         platelet.
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VEGA_SH
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Best Local S
Matches 15
                             P50412;
01-OCT-1996
01-OCT-1996
28-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                             CHAIN
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
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-I- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFRI/Kdr receptors and to heparan sulfate and
01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precurso
permeability factor) (VPF).
                                                                                                             SHEEP
                                                                                                                                                                                                                                                                                                                                                                                                        Heparin-binding; Alternative splicing; Multigene family.

SIGNAL 1
26
CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH
DISULFID 51 93 BY SIMILARITY.
DISULFID 82 127 BY SIMILARITY.
DISULFID 86 129 BY SIMILARITY.
DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; M32976; AAA30502.1; -.
EMBL; M31836; AAA30804.1; -.
EMBL; M33750; AAA30805.1; -.
EMBL; M3750; BA0080.
PIR; B40080; B40080.
HSSP; P15692; 1VGH.
                                                                                                                                                                                                                                                                                                                                 VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProDom; PD001629; PD growth_factor; 1 SMART; SM00141; PDGF; 1.
                                                                                              VEGA SHEEP
                                                                                                                                                                                                                                                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00341; PDGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nterPro; IPR000072;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IBOId=P15691-2; Sequence=VSP_004613, VSP_004614; SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           with PIGF (By similarity).
SUBCELLULAR LOCATION: Secreted but remains associated to cells or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  similarity).
ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Name=Beta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Event=Alternative splicing; Named isoforms=2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 to the extracellular matrix unless released
                                                                                                                                                                         27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IsoId=P15691-1; Sequence=Displayed;
                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                         APMAEGGOKPHEVVKFMDVY
                                                                                                                                                                                                     APTTEGEOKSHEVIKEMDVY
                                                                                                                                                                                                                                                                                                  190
                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                           .85
100
139
                                                                                                                                                                                                                                                                                                                                 184
                                                                                                                                                                                                                                                                                                  AA;
                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                            190
190
93
127
129
76
85
100
                                                                                                                                                                                                                                                                                                  22310
                                                                                                                                                                                                                                                  75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PD_growth_factor.
                                                                                                                                                                                                                                                                                                   ¥
                                                                                                                                                                                                                                                                                             Missing (in isoform Beta).

/FTId=VSP 004613.

R -> K (in isoform Beta).

/FTId=VSP 004614.

W; EDBF903E46E24789 CRC64;
                                                                                                                                                                                                                                    1;
                                                                                                                                                                                                                                                  Score 81;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                             N-LINKED (GLCNAC. .
                                                                                                                                                                                                                                                                                                                                                                                          INTERCHAIN (BY SIMILARITY).
                                                                                                                                                                       46
                                                                                                                                                                                                     20
                                                                                            PRT;
                                                                                                                                                                                                                                    Mismatches
              precursor (VEGF-A) (Vascular
                                                                                           146 AA
                                                                                                                                                                                                                                                  3.7e-06;
                                                                                                                                                                                                                                                                   DB 1;
                                                                                                                                                                                                                                                                 Length 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             by heparin (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                             (POTENTIAL).
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RESULT
VEGA_CA
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Best Local S
Matches 15
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R PROSITE; PS00249; PDGF 1; 1.

R PROSITE; PS50278; PDGF 2; 1.

Mitogen; Angiogenesis; Growth fa Heparin-binding; Multigene f.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mammalia; Eutheria; (
Bovidae; Caprinae; O'
NCBI_TaxID=9940;
[1]
                                                                                                                                                                                                                                                                                                                           DISULFID
DISULFID
DISULFID
DISULFID
VEGA_CANFA STANDARD; PRT; 214 AA.

OMNYU3; Q9XSF3; Q9XSF4; Q9XSF5;
28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
28-FEB-2003 (Rel. 41, Last annotation update)
VEGF OR VEGFA.

VEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  factor (VEGF) in the ovine corpus luteum.";

J. Reprod. Fertil. 108:157-165(1996).

-I- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFRI/Kdr receptors and to heparan sulfate and
                                                                                                                                                                                                                                                                                                   DISULFID
CARBOHYD
                                                                                                               CANFA
                                                                                                                                                                                                                                                                                                                                                                                  CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Redmer D.A., Dai Y., Li J., Charnock-Jones J.S., Survey, Reynolds L.P., Moor R.M.;
"Characterization and expression of vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ovis aries (Sheep).
Ovis aries (Sheep).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ProDom; PD001629; PD growth factor; 1. SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     entities requires a license agreement (Su or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               use by non-profit institutions as long as modified and this statement is not removed. U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; X89506; CAA61677.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=97117958;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Kidney;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4SSP; P15692; 1VPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S57956; S57956.
                                                                                                                                                                      27
                                                                                                                                                                                                  \vdash
                                                                                                                                                                                                                              15;
                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                      APTTEGEQKSHEVIKFMDVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PlGF (By similarity)
                                                                                                                                                                      APMAEGGQKPHEVMKFMDVY 46
                                                                                                                                                                                                                                                                                    146 AA;
                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                27
27
82
86
85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PubMed=8958842;
                                                                                                                                                                                                                                                                                                               146
93
127
129
76
                                                                                                                                                                                                                                     69.3%;
75.0%;
                                                                                                                                                                                                                                                                                      17247
                                                                                                                                                                                                                                                                                    MW;
                                                                                                                                                                                                                                                                                             VASCULAR ENDOTHELIAL GROWTH FACTOR A.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
                                                                                                                                                                                                                            1;
                                                                                                                                                                                                                                          Score 79; DB 1;
Pred. No. 5.9e-0
                                                                                                                                                                                                                                                                                                                                                                                                    BY SIMILARITY
                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                             factor; Glycoprotein; Signal
                                                                                                                                                                                                                                                                                    4E792CB557F91760 CRC64;
                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  noved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          There are no restrictions on ong as its content is in no
                                                                                                                                                                                                                                           .9e-06;
                                                                                                                                                                                                                           4
                                                                                                                                                                                                                                                       Length 146;
                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL
                                                                                                                                                                                                                              <u>,,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             collaboration -
                                                                                                                                                                                                                            Gaps
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Canis familiaris (Dog).

Chordata;

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CHAIN
DISULFID
DISULFID
DISULFID
  VARSPLIC
                             VARSPLIC
                                                                                                                                                                         Heparin-binding; Alternative SIGNAL 1 26
                                                                                                                                                                                                                                               ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                          InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                   EMBL; AJ133758; CAB82426.1; -.
EMBL; AF133250; AAD29684.1; -.
EMBL; AF133249; AAD29683.1; -.
EMBL; AF133246; AAD29682.1; -.
EMBL; AF133246; AAD29682.1; -.
HSSP; P15692; 1VGH.
                                                                                                                                                                                                                                                                                                                                                                                          entities r
or send an
                                                                                                                                                                                                                                                                                                                                                                                                  the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for contentities requires a license agreement (See http://www.isb-sib.ch/ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (MAR-1999)
-1- FUNCTION: Growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scheidegger P., Warner Ballmer-Hofer K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                          VARSPLIC
                                                                                                                                                                                                    Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=20125516; PubMed=10661874;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                      DISULFID
                                                                                                      DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Heart;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Vascular endothelial growth factor (VEGF)
                                                                                                                                                                                                                    PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IsoId=Q9MYV3-3; Sequence=VSP 004615, VSP 004616; SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mitted (MAR-1999) to the EMBL/GenBank/DDBJ databases. FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFRZ/Kdr receptors and to heparan sulfate and vessels.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Name=VEGF-182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Name=VEGF-188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                with PIGF (By similarity). SUBCELLULAR LOCATION: Secreted but
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Name=VEGF-164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Event=Alternative splicing; Named isoforms=3; Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  to the extracellular matrix unless
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chem. 380:1449-1454(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IsoId=Q9MYV3-2; Sequence=VSP_004617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IsoId=Q9MYV3-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             dogs.";
                                                                                                                                                                           PS00249; PDGF 1; 1.
PS50278; PDGF 2; 1.
PS50278; PDGF 2; 1.
Angiogenesis; Growth factor; Glycoprotein; Signal;
Angiogenesis; Growth factor; Multigene family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eutheria; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                          email to license@isb-sib.ch).
  159
                             141
                                                                     1
27
82
86
76
100
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Weiglhofer W., Suarez S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Jaussi R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (ISOFORMS VEGF-188;
                                                                     214
214
93
127
129
100
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                                                                     INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
             /FTId=VSP_004615.
Missing (in isofo
/FTId=VSP_004616.
                                                                                                                  BY SIMILARITY
                                                                                                                               BY SIMILARITY.
                                                                                                                                                          VASCULAR ENDOTHELIAL GROWTH FACTOR A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Craniata; Vertebrata; Fissipedia; Canidae;
                                                                                                                                              SIMILARITY.
                                                       N (in isoform VEGF-164).
(in isoform VEGF-182)
                                                                                                                                                                                                                                                                                                                                                                                                       (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 released by heparin (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 remains associated to cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VEGF-182
                             isoform VEGF-164)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kaser-Hotz B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            found
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            its receptors in tumor-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                             and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Euteleostomi;
Canis.
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VEGA_CAVPO
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                                                                                     Mitogen;
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P26617;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertel
Mammalia; Eutheria; Rodentia; Hystricognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A (VEGF-A)
                                                                                                                                                                                                                                        PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Angiogenesis; Growth
                                                                                                                                                                                                                                                                                                         ProDom; PD001629; PD
SMART; SM00141; PDGF
                                                                                                                                                                                                                                                                                                                                                                                            EMBL; M84230; AAA37057.1;
HSSP; P15692; 1VGH.
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VEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00341; PDGF;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE=Bile duct;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                        nterPro; IPR000072; PD_growth_factor.
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SUBCELLULAR LOCATION: Secreted but
to the extracellular matrix unless
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   similarity).
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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Pred. No. 4.66
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Pred. No. 2.
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I -> V (IN REF. 2).
P -> S (IN REF. 2).
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. 4.6e-05;
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                                               DB 1;
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                                          Length 164;
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RESULT 10
VEGA_HUMAN
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P15692; 060
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J. Biol.
                                                                                                                                                                                                                                                                                                                                      fourth of RNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. (ISOFORM VEGF189).
MEDLINE=91268072; PubMed=1711045;
Tischer E., Mitchell R., Hartman T., Silva M., Gospodarv
Fiddes J.C., Abraham J.A.;
"The human gene for vascular endothelial growth factor."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-APR-1990 (Rel. 14, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A)
permeability factor) (VPF)
Let J., Jiang A., Pei D.;
Identification and characterization of a new splicing variant "Identification and characterization of a new splicing variant vascular endothelial growth factor: VEGF183.";
Biochim. Biophys. Acta 1443:400-406(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=90069609; PubMed=2479987; Keck P.J., Hauser S.D., Krivi G., Connolly D.T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=90069608; PubMed=2479986;
Leung D.W., Cachianes G., Kuang W.-J
"Vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9UL23;
01-APR-1990
                                                                                                                                                                                                                                                                                                                                                   MEDLINE=92168017; PubMed=1791831;
Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.
"The vascular endothelial growth factor family: identification
fourth molecular species and characterization of alternative sp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Vascular permeability factor, an PDGF.";
                                                                                             SEQUENCE
                                                                                                                     "VEGF145, a secreted vascular endothelial binds to extracellular matrix.";
J. Biol. Chem. 272:7151-7158(1997).
                                                                                                                                                                           Poltorak
                                                                                                                                                                                     SEQUENCE FROM N.A. (ISOFORM VEGF)
MEDLINE=97207275; PubMed=9054410;
                                                                                                                                                                                                                              Biochem. Biophys. Res. Commun. 183:1167-1174(1992)
                                                                                                                                                                                                                                            "AIDS-associated Kaposi's sarcoma cells endothelial growth factor.";
                                                                                                                                                                                                                                                                   MEDLINE=92231879; PubMed=1567395; Weindel K., Marme D., Weich H.A.;
                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. (ISOFORM VEGF165).
                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Science 246:1309-1312(1989)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (Human)
                                                                 MEDLINE=99096474; PubMed=9878851;
                                                                                                                                                                                                                                                                                                                          Endocrinol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OR VEGFA.
                                                                                                                                                           ak Z., Cohen T., Sivan E., Neufeld G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                   forms are encoded through alternative . Chem. 266:11947-11954(1991).
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); 075875; (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (ISOFORM VEGF189), AND
                                                                                             (ISOFORM VEGF183)
                                                                                                                                                                                                    (ISOFORM VEGF145)
                                                                                                                                                                                                                                                                                                                                                                                                        (ISOFORM VEGF206).
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); Q96NW5; (
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ctor is
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angiogenic
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Abrams K.R., Lee S.W., Detmar M.;
"Identification of a human VPP/VEGF
hypoxia-induced mRNA stability.";
Mol. Biol. Cell 9:469-481(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Jingjing L., Xue Y., Agarwal N., Roq
"Human Muller cells express VEGF183,
vascular endothelial growth factor."
                                                        MEDLINE=97352774; PubMed=9207067; Muller Y.A., Li B., Christinger F de Vos A.M.;
                                                                                                                            Fiebich B.L., Jaeger B., Schoellmann C.,
Kochs G., Marme D., Hug H., Weich H.A.;
"Synthesis and assembly of functionally
endothelial growth factor homodimers in
                                                                                                                                                                                                             Siegel N., Haymore B.L., Leimgruber R., Feder J
"Human vascular permeability factor. Isolation
J. Biol. Chem. 264:20017-20024(1989).
                                                                                                                                                                                                                                                                                                 Rieder M.J., Armel T.Z., Carrington D.P., Chur Poel C.L., Toth E.J., Yi Q., Nickerson D.A.; Submitted (OCT-2001) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                              Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and receptor mRNA expression in identification of VEGF148 mRNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Renal glomerulus;
MEDLINE=99394945; PubMed=10464055;
Whittle C.J., Gillespie K.M., Harrison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (DEC-1998) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Breast;
MEDLINE=98119755;
                      "Vascular endothelial mapping of the kinase Proc. Natl. Acad. Sci.
                                                                                                                                                                                                                                                              PRELIMINARY SEQUENCE OF 27-36; 43
MEDLINE=90062112; PubMed=2584205;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Sato
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VEGF165.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Murata H., Fukushima
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                                                                                            X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS)
                                                                                                                                                                             SEQUENCE OF 27-41.
MEDLINE=93145946; PubMed=7678805;
                                                                                                                                                                                                                                                  Connolly D.T., Olander J.V.,
                                                                                                                                                                                                                                                                                                                                                                           Williams
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Human cDNA for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ISSUE=Hemangioendothelioma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Invest. Ophthalmol. Vis. Sci. 40:752-759(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=99165303;
                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 23-232
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Heterogeneous vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                          'Human cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EQUENCE OF 114-209
                                                                                                                                                                                                                                                                                                                                                                                                                                    J.D., Whitney R.G.;
 CRYSTALLOGRAPHY
                                                                                                                    Biochem.
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(DEC-1999) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                               (DEC-2000)
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                                                                                                                    211:19-26(1993).
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                                                                                                                                                                                                                                                                                                                                       FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 (ISOFORM VEGF121)
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                                                                    Christinger H.W.,
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vascular endothelial growth
                     domain I
(1.93 ANGSTROMS)
                                                                                                                                                                                                                                                                                                                                                               the
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NA, a nove
                      factor: crystal structure
receptor binding site.";
94:7192-7197(1997).
                                                                                                                                                                                                                                                    Heuvelman D.,
                                                                                                                                                                                                                                                                                                                                        (VEGF165)
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                                                                                                                                                                                                                                                                            43-50 AND
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183, a novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   novel truncated
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                                                                    Wells J.A.,
 OF 34-135
                                                                                                                                                                                                                          Feder J.;
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                                                                                                                              active human insect cells.
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                                                                                            34-135
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                                                                                                                                                                                                                                                   Nelson R.,
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ch factor
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RESULT 11
VEGA_CHICK
ID VEGA_CHICK
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Best Local :
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Fairbrother W.J.,
Starovasnik M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRUCTURE BY NMR OF 34-135.
MEDLINE=97477915; PubMed=9336848;
Pairbrother W.J., Champe M.A., Christinger H.W.,
Starovasnik M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ""The crystal structure of vascular endothelial growth factor (VEGF) refined to 1.93-A resolution: multiple copy flexibility and receptor binding.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FASEB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Murphy J.F., Fitzgerald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "1H, 13C, and 15N backbone assignment and secondary structure of receptor-binding domain of vascular endothelial growth factor.", Protein Sci. 6:2250-2260(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wiesmann C., Christinger H.W., Cochran A.G., Cunningham B.C., Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M., "Crystal structure of the complex between VEGF and a receptor-blocking
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=21320570; PubMed=11427521;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biochemistry 37:17765-17772(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     peptide.";
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MEDLINE=99119204; PubMed=9922142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Vascular endothelial growth factor induces cyclooxygenase-dependent proliferation of endothelial cells via the VEGF-2 receptor."; PASEB J. 15:1667-1669(2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=98035455; PubMed=9351807;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the PEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin. Neuropillin-1 binds isoforms VEGF-165 and VEGF-145.
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
                                                                                                                                                                                                          Name=VEGF189;
IsoId=P15692-2;
                                                                                                                                                                                                                                                                                                                               VEGF165 is more basic, has heparin-binding properties and, although a signicant proportion remains cell-associated, most ifreely secreted. VEGF189 is very basic; it is cell-associated after secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a soluble form by heparin, heparinase or plasmin.
                                                                                                                                                                                                                                                                                                                                                                                                                            with PlGF (By similarity).
SUBCELLULAR LOCATION: VEGF121 is acidic and freely
                                                                                                                                                                                                                                                                                                    Event=Alternative splicing; Named isoforms=7;
                                                                                                                                                                                                                                                                                                                  form by heparin, heparinase ALTERNATIVE PRODUCTS:
                                                                                 27
                                                                                                                                                                                                                                       IsoId=P15692-1;
                                                                                                                                                                                                                                                                        isoforms
                                                                                                                                                                                                                                                                                     Comment=Experimental confirmation may
                                                                                                             μ.
                                                                                                                                                            Similarity
                                                                               APMAEGGGONHHEVVKFMDVY
                                                                                              APTTE-GEQKSHEVIKFMDVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BY NMR OF 137-215.

8298440; PubMed=9634701;

Atamma M.A., Christinger H.W., Keyt B.A.,
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                                                                                                                                            Conservative
   STANDARD;
                                                                                                                                                           57.5%;
                                                                                                                                                                                                                                      Sequence=Displayed;
                                                                                                                                                                                                     Sequence=VSP_004622;
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                                                                                                                                          1;
                                                                                                                                                           Score 65.5;
Pred. No. 0.
   PRT;
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   216
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Flamme I., von Reutern M., Drexler H.C., Syed-Ali S., Risau W "Overexpression of vascular endothelial growth factor in the embryo induces hypervascularization and increased vascular permeability without alterations of embryonic pattern formation. Biol. 171:399-414(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Flamme I., Breier G., Risau W.;
"Vascular endothelial growth factor (VEGF) &
(flk-1) are expressed during vasculogenesis
differentiation in the quail embryo.";
Dev. Biol. 169:699-712(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vascular endothelial growth factor A precursor permeability factor) (VPF).
VEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gallus gallus (Chicken), and Coturnix coturnix japonica (Japanese quail).

Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasiani
                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                               -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SPECIES=C.c.japonica;
MEDLINE=95301109; Pub
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. (ISOFORMS VEGF-190;
SPECIES=C.c.japonica; TISSUE=Embryo;
MEDLINE=96005007; PubMed=7556923;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Chick embryonic ventricular myocytes VEGF."; Submitted (FEB-1998) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SPECIES=Chicken;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
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15-SEP-2003 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P52582; Q91420;
01-OCT-1996 (Re
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF 60-187 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Takahashi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9031,
                                                                                                                                                                         liver. In kidney glomeruli, brain and 10-times more abundant than VEGF-190. DEVELOPMENTAL STAGE: VEGF-166 is exprupgraded during gastrulation. Express only from day 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FUNCTION: Growth factor active in angiogenesis, vasculogenesis a endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
                                                                                                                                                                                                                                        IsoId=P52582-3; Sequence=VSP_004635, VSP_004636;
Note=Has been shown to exist only in quall so far;
TISSUE SPECIFICITY: Abundantly and equally expressed in hear
liver. In kidney glomeruli, brain and yolk sac, VEGF-166 is
                                                                                                                                                                                                                                                                                                                                                                                                                                      SUBUNIT: Homodimer; disulfide-linked. Also found with PlGF (By similarity).
ALTERNATIVE PRODUCTS:
                                                                                                                                            retention signal
                                                                                                                                                            DOMAIN: VEGF-190 contains a basic insert which
                                                                                                                                                                                                                                                                                                          Name=VEGF-146;
                                                                                                                                                                                                                                                                                                                                                             Name=VEGF-166;
                                                                                                                                                                                                                                                                                                                                                                                            Name=VEGF-190;
                                                                                                                                                                                                                                                                                                                                                                                                         Event=Alternative splicing; Named isoforms=3; Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                           Note=Has been shown
                                                                                                                                                                                                                                                                                                                                                                           IsoId=P52582-1;
                                                                                                                                                                                                                                                                                                                                            IsoId=P52582-2;
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36, Last sequence update)
42, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PubMed=7781909;
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                                                                                                                                                                                                                                                                                                                          Sequence=VSP_004633, VSP_004634; hown to exist only in quail so fa
                                                                                                                                                                                                                                                                                                                                                                           Sequence=Displayed;
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                                                                                                                                                                                          is expressed early at of Expression of VEGF-190
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detectable
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RESULT 12
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Matches 10
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                                                                                                                                    Wilson R., Ainscough R., Anderson K., Baynes C., Berks M.,
Bonfield J., Burton J., Connell M., Copsey T., Cooper J., Coulson A
Craxton M., Dear S., Du Z., Durbin R., Favello A., Fraser A.,
Fulton L., Gardner A., Green P., Hawkins T., Hillier L., Jier M.,
Johnston L., Jones M., Kershaw J., Kirsten J., Laisster N.,
Latreille P., Lightning J., Lloyd C., Mortimore B., O'Callaghan M.,
Parsons J., Percy C., Rifken L., Royn Saunders D., Shownkeen Sims M., Smaldon N., Smith A., Smith M., Sonnhammer E., Staden R.,
Sulston J., Thierry-Mieg J., Thomas K., Vaudin M., Vaughan K.,
Waterston R., Watson A., Weinstock L., Wilkinson-Sproat J.,
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YL52_
                                                                                                                                                                                                                                                                                                                                  STRAIN=Bristol N2;
MEDLINE=94150718; PubMed=7906398;
Wilson R., Ainscough R., Anderson
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Caenorhabditis elegans.
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-FEB-1994 (Rel. 28, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Hypothetical protein F44E2.2 in chromosome III.
F44E2.2/F44E2.1.
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                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
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SMART; SM00141; PDGF; 1.
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EMBL; S79680; AAB35371.1; -.
HSSP; P15692; IVGH.
                   REVISIONS,
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                                                             Nature
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                                                             368:32-38(1994)
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PS50278; PDGF_2; 1.
Angiogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DGERKPNEVIKFLEVY
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Pred.
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K -> N (in isoform
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INTERCHAIN (BY SIMILARITY).
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F -> L (in isoform VEGF-146)
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InterPrc.
InterPrc, InterPrc, InterPrc, IPROUVE InterPro; IPROUNTS, FOROMOTO, TOTAL PROMISE PROTEASE; 1.

DR PROSITE; PS00141; ASP PROTEASE; 1.

PROSITE; PS0158; ZF CCHC; 1.

PROSITE; PS50158; ZF CCHC; 1.

PROSITE; PS50158; ZF CCHC; 1.

S89 606

CCHC TYPE.

664 664 Missing (in /FIId=VSP / FIId=VSP / FIID=
                                                                    RESULT 13
RIMM STAIM S
AC Q97RMS
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DT 28-FEB
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CO BACTER
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RN [1]
TRN [1]
RA TELTAIN
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Best Local S
Matches 8
Q97RM5;
28-FEB-2003
28-FEB-2003
28-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                  Streptococcus pneumon:
Bacteria; Firmicutes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                        Streptococcus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   RIMM OR SP0778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; L23646; AAA28035.2; -.
EMBL; L23646; AAL02516.1; -.
HSSP; P03366; 1HMV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (NOV-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=1313;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Probable 16S rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WormPep; F44E2.2a; CE07254. WormPep; F44E2.2b; CE29321.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation
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Note=No experimental confirmation available;
SIMILARITY: THE PROTEASE BELONGS TO PEPTIDASE FAMILY All.
SIMILARITY: Contains 1 CCHC-type zinc finger.
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8; Conserva
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41,
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Last annotation updat
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                                                                                                                                                                                                                                                                                                                                                                                  Lactobacillales; Streptococcaceae,
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Missing (in isoform a).
/FTId=VSP_005225.
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Alternative
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Best Local S
Matches 7
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30-MAY-2000
97 kDa heat
                                                                                                                                                                                                                 SEQUENCE FROM N.A.

MEDLINE-97287853; PubMed-9142981;

MEDLINE-97287853; PubMed-9142981;

Mauk R., Jaworski D., Kamei N., Glabe C.G.;

"Identification of a 97-kDa heat shock protein from S. franciscanus ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity to the S. purpuratus egg surface ovaries with 94% amino acid identity egg surface ovaries with 94% amino acid identity egg surface ovaries with 94% amino acid identity egg surface ovaries egg surface ovaries with 94% amino acid identity egg surface ovaries egg surface ovaries with 94% amino acid identity egg surface ovaries 
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01-NOV-1997
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                                                                                                                                                                                                                                                                                                                                                                          Strongylocentrotus.
NCBI_TaxID=7665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HAMAP; MF 00014; -; 1.
InterPro; IPR002676; RimM.
Pfam; PF05239; PRC; 1.
Pfam; PF01782; RimM; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This
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                                                                          This SWISS-PROT entry is copyright. It is produced through a
                                                                                                                      receptor for sperm.";
Dev. Biol. 184:31-37(1997).
-!- SUBCELLULAR LOCATION: Cytoplasmic (Potential).
-!- SIMILARITY: BELONGS TO THE HEAT SHOCK PROTEIN 70 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Strongylocentrotus franciscanus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HSP110
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SEQUENCE 172 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                Echinoidea; Euechinoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FUNCTION: Essential for efficient processing of 16S rRNA. P part of the 30S subunit prior to or during the final step in processing of 16S free 30S ribosomal subunits. It could be accessory protein needed for efficient assembly of the 30S subunit. It is needed in a step prior to rbfA during the maturation of 16S rRNA. It has affinity for free ribosomal subunits but not for 70S ribosomes (By similarity). SUBCELLULAR LOCATION: Cytoplasmic (Potential).
ween the Swiss Institute of Bioinforma
European Bioinformatics Institute. The
by non-profit institutions as long
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C95090; C95090.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRFN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (Rel. 35, Created)
(Rel. 35, Last sequence update)
(Rel. 39, Last annotation update)
shock protein (Heat shock protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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A; 19817 MW; 9541
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                                                                                                                                                                                                                                                                                                                                                                                                                           scanus (Sea urchin).
odermata; Eleutherozoa; Echinozoa;
Echinacea; Echinoida; Strongyloce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 44; DB
Pred. No. 4.8;
5; Mismatches
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                                           Bioinformatics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              886. AA
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  There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     110)
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                                                      and
                                                                                                                                                                                                                                                                                                                                                                                                                                Strongylocentrotidae;
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T., Hickey E.K.,
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RESULT 15
RFC1_MOUSE
ID RFC1_MOUSE
AC P35601;
REPRESENTATION OF STREET STREE
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01-OCT-1996 (Rel. 34, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Activator 1 140 kDa subunit (Replication factor C large subunit)
140 kDa subunit) (RF-C 140 kDa subunit) (Activator 1 large subunit)
(A1-P145) (Differentiation specific element binding protein)
                                                                                                                                                     "Differentiation-specific element binding protein (DSEB) binds to a defined element in the promoter of the anglotensinogen gene required for the irreversible induction of gene expression during differentiation of 3T3-L1 adipoblasts to adipocytes."; Mol. Endocrinol. 9:487-501(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRINTS; PR00301; HEATSHOCK70.

ProDom; PD000089; Hep70; 3.

PROSITE; PS00297; HSP70_1; FALSE_NEG.

PROSITE; PS00329; HSF70_2; PALSE_NEG.

PROSITE; PS01036; HSP70_3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     entities requires a license agreement (S or send an email to license@isb-sib.ch).
SEQUENCE OF 1-565 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                  STRAIN-Swiss;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Burbelo P.D., Utani A., Pan Z., Yamada Y.; "Cloming of the large subunit of activator 1 (replication factor C) reveals homology with bacterial DNA ligases "; Proc. Natl. Acad. Sci. U.S.A. 90:11543-11547(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RFC1 OR RECC1 OR IBF-1.
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                                                 Submitted (FEB-1994)
                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                              McGehee Habener J.F.;
                                                                                                                                                                                                                                                                                                                    MEDLINE=95388065;
                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDILINE-94158835; PubMede-8114700;
Luckow B., Bunz F., Stillman B., Lichter P., Schuetz G.;
"Cloning, expression, and chromosommal localization of the
140-kilodalton subunit of replication factor C from mice
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Liver;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10090;
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                                                                                                                                                                                                                                                                                                                                                                                                                                Biol. 14:1626-1634(1994).
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                                                                                                                                                                                                                                                                                                                    PubMed=7659092;
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88.9%;
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                                                 the EMBL/GenBank/DDBJ databases
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Pred. No. 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Schuetz G.; zation of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
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                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00004; AAA; 1.
Pfam; PF00533; BRCT; 1.
SMART; SM00382; AAA; 1.
SMART; SM00292; BRCT; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GO; GO:0005634; C:nucleus; IDA.
InterPro; IPR00359; AAA ATPase.
InterPro; IPR00359; AAA ATPase_centr.
InterPro; IPR001357; BRCT.
InterPro; IPR000862; RFCdomain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; U01222; AAA21643.1; -.
EMBL; X72711; CAA51260.1; -.
EMBL; U36441; AAA79698.1; -.
EMBL; U07157; AAC52140.1; -.
EMBL; U15037; AAB60452.1; -.
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SEQUENCE OF 354-528 FROM N.A.
MEDLINE=90229765; PubMed=1691767;
Haque S.J., Kumar A., Fischer T., Rutherford M.N., Williams B.R.;
"Evaluation of inter- and intramolecular primary structure homologies of interferons by a Monte Carlo method.";
J. Interferon Res. 10:31-31(1990).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS50172; BRCT; 1.
DNA replication; ATP-binding;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; MGI:97891; Recc1.
GO:0005634; C:nucleus; IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUBUNIT: HETEROPENTAMER OF SUBUNITS OF 140/145, 40, 38, 37, AND 36.5 KDA THAT FORMS A COMPLEX WITH PCNA IN THE PRESENCE OF ATP. SUBCELLULAR LOCATION: NUCLEAR.
SUBLILARITY: BELONGS TO THE ACTIVATOR 1 140 KDA SUBUNIT FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FUNCTION: THE ELONGATION OF PRIMED DNA TEMPLATES BY DNA POLYMERASE DELTA AND EPSILON REQUIRES THE ACTION OF THE ACCESSORY PROTEINS PCNA AND ACTIVATOR 1. THE 140 SUBUNIT BINDS TO THE PRIMERTEMPLATE JUNCTION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: Contains 1 BRCT domain.
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TSQGVEGAQHVIKLMDTY 1012
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(OCT-1994) to the
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Y -> N (IN REF. 3).
E -> EPDFCLSCLIFFGIO
V -> A (IN REF. 5)
559 N -> S (IN REF. 7)
614 MISSING (IN REF. 7)
614 MISSING (IN RF. 7)
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11071 T -> A (IN RF. 7)
11084 K -> KQ
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                                                                           4;
                                                                                             Score 44;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                             ATP (BY SIMILARITY).
C2HC-TYPE (POTENTIAL).
NUCLEAR LOCALIZATION SIGNAL
                                                                                                                                                                                                                                                                                                                                                            NUCLEAR LOCALIZATION SIGNAL (POTENTIAL)
INTERFERON-STIMULATED-RESPONSE-ELEMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Transcription regulation; DNA-binding;
                                                                                                                                                                                                                                                                                                -> EPDFCLSCLIFFGIQ (IN REF. 4)
                                                                             Mismatches
                                                                                                                                                        A6F4F970A7F9EE94 CRC64;
                                                                                                DB 1;
36;
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Search completed: January 30, 2004, 11:41:04

Job time : 5.84615 secs

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    January 30, 2004, 11:33:38; Search time 21.7538 Seconds (without alignments) 249.110 Million cell updates/sec
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114
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Listing first 45 summaries
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sp_bacteria:*
sp_fungi:*
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sp_organelle:*
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                              Q8SPZ9
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088911
091ZE1
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  042571
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Q9CMT7
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Q8spz9 sus scrofa
Q9mzb1 ovis aries
Q96kj0 homo sapien
Q96182 homo sapien
Q95ne5 macaca fasc
Q9bdp7 macaca mula
Q42571 xenopus lae
Q42572 xenopus lae
Q9cmt7 pasteurella
                                                                                     O70123 mus musculu
O88911 rattus norv
O91zel rattus sorv
O91zel rattus sorv
O90x39 spalax leuc
O8hy70 mustela vis
O95104 felis silve
O97643 ovis aries
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465	439	360	332	278	213	113	982	1455	1455	405	248	180	172	113	235	2213	128	2272	499	436	401	288	208	208	360	1357	188	144
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ALIGNMENTS

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SEQUENCE ITE AN, 1000 MM, AZ/CTBEON/0/1000 CACOT,	PS50278; PDGF 2; 1:	DROSTER DS00249 DDGF 1: 1	SMART: SM00141: PDGF: 1.	ProDom: PD001629: PD growth factor: 1.	Pfam; PF00341; PDGF; 1.	InterPro; IPR000072; PD growth factor.	MGD; MGI:103178; Vegfa.	HSSP; P49763; 1FZV.	EMBL; U50279; AAC05442.1;	J. Biol. Chem. 273:3033-3038(1998).	growth factor, VEGF 115.";	"A novel alternatively spliced form of murine vascular endothelial	Sugihara T., Wadhwa R., Kaul S.C., Mitsui Y.;	MEDLINE=98112857; PubMed=9446618;	STRAIN=ICR;	SEQUENCE FROM N.A.		Biochim. Biophys. Acta 1224:365-370(1994).	spontaneous immortalization of murine fibroblasts.";	ion of multiple forms of VEGF is	S.C., Mitsui Y., Wadhwa R.;	MEDLINE=95101726; PubMed=7803491;	CR;	SEQUENCE FROM N.A.	[1]	NCBI_TaxID=10090;	Rodentia;	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;	Mus musculus (Mouse).	VEGFA OR VEGF.	VEGF115.	(TrEMBLrel. 23, Last	01-AUG-1998 (TrEMBLrel. 07, Last sequence update)	01-AUG-1998 (TrEMBLrel. 07, Created)		O70123 PRELIMINARY; PRT; 141 AA.

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RESULT 3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=Sprague-Dawley; TISSUB=Penis;
MEDLINE=99115228; PhDMed=9916007;
Burchardt M., Burchardt T., Chen M.W., Shabs:
Buttyan R., Shabsigh R.;
"Expression of messenger ribonucleic acid spendothelial growth factor in the penis of add Biol. Reprod. 60:398-404(1999).
EMBL; AF080594; AAC36708.1; -.
HSSP; P49763; 1FZV.
                                                                                                                                                                                                                                                   01-DEC-2001
01-DEC-2001
01-MAR-2003
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PROSITE;
NON_TER
SEQUENCE
STRAIN=Sprague-Dawley;
Marion S., Lee T.-C.;
"Cloning of multiple V
cardiomyocytes.";
                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=10116;
                                                                                                                                                                                      Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                 Q91ZE1;
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ProDom; PD001629; PD growth_factor;
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
NON TEP
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InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
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Mammalia; Eutheria; Rodentia;
MCBI_TaxID=10116;
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1 (TrEMBLrel. 19, 1
3 (TrEMBLrel. 23, 1
ndothelial growth
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3 (TrEMBLrel. 08,
3 (TrEMBLrel. 23,
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                                                                                                                                             Chordata;
Rodentia;
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Pred. No.
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Pred. No. 1.1e-09;
                                                                                                                                           Craniata; Vert
Sciurognathi;
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adult rats and humans.";
                       from
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                     hypoxic neonatal
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RESULT 5
Q8HY70
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Best Local Similarity
Matches 18; Conser
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Best Local
                        OBHY70;
01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor A (Fragment).
Mustela vison (American mink).
Mustela vison (American mink).
Firervota; Metazoa; Chordata; Craniata; Vertebrata; Eut
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9QX39
Q9QX39;
01-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                     Prodom; PD001629; PD_growth_factor; SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
SEQUENCE 190 AA; 22396 MW; 58937
                                                                                                                                                                                                                                                                                                                        ProDom; PD001629; PD_growth_factor;
SMART; SM00141; PDGF; 1.
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InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
        Mustela.
NCBI_TaxID=9667;
                                                                                                                               Q8HY70
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PROSITE; PS50278; PDGF 2; 1.
SEQUENCE 190 AA; 22488 MW;
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HSSP; P49763; 1FZV.
InterPro; IPR000072; PD_grov
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                             ehrenbergi: the role of vascular endothelial growth FEBS Lett. 452:133-140(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nannospalax.
NCBI_TaxID=30637;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Spalax leucodon ehrenbergi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=99313148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                         18;
                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                            APTTEGEQKSHEVIKFMDV----YC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APTTEGEQKSHEVIKFMDVY
                                                                                                                                                                                         APTAEGEQKPHEVVKFMDVFRRSYC
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                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                               PubMed=10386577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     enbergi (Ehrenberg's mole rat).
Chordata; Craniata; Vertebrata; I
Rodentia; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 90.0%;
                                                                                                                                                                                                                                                 79.8%;
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Pred. No. 6.9e-09;
2; Mismatches 0
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                                                                                                                                                                                                                                                    Score 91; DB 11;
Pred. No. 3.4e-07;
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                                                                                                                                                                                                                                                                                      2228383BC65F0BFE CRC64;
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                                             Euteleostomi;
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Best Local S
Matches 14
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Best Local
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InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS00249; PDGF_2; 1.
SEQUENCE 189 AA; 22193 MW; C1E464675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q95LQ4 PRELIMINARY; PRT; 189 AA.
Q95LQ4;
Q95LQ4;
01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-WAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor.
Felis silvestris catus (Cat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eukeria; Carnivora; Fissipedia; Felidae;
                                                                                                                                                                                                                                                                                                                             077643
077643;
                                                                                                                        Ovis aries (Sheep).
Eukaryota; Metazoa; Chordata; Craniat
Mammalia; Eutheria; Cetartiodactyla;
Bovidae; Caprinae; Ovis.
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Submittled (OCT-2002) to the EMBL; AY158156; AAN76365.1; -.
                                                                                                                                                                                                                                    01-NOV-1998 (TrEMBLrel. 08, 01-NOV-1998 (TrEMBLrel. 08, 01-MAR-2003 (TrEMBLrel. 23, Vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     growth factor.";
Submitted (SEP-2001) to the EMBL/GenBank/DDBJ databases
                    STRAIN=Columbia-Ramboulliet;
Cheung C.Y., Brace R.A.;
                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Koga L., Kobayasnı r.
"Nucleotide sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. Koga L., Kobayashi Y.,
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                                                                                                      NCBI_TaxID=9940;
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vascular endothelial growth factor: Nucleotide sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           184 AA;
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                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
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                                                                                                                                                                                                                                    Last sequence update)
Last annotation update)
factor.
                                                                                                                                                                                                                                                                                                        Created)
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Pred. No. 2.4e
2; Mismatches
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Pred. No. 7.26
1; Mismatches
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                                                                                                                                               Craniata; Vertebrata; Eute
actyla; Ruminantia; Pecora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               46
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
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                                                                                                                                                                        Euteleostomi;
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Felis.
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                                                                                                                                                      Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
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and
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RESULT 9
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Q9MZB1;
01-OCT-2000
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01-JUN-2002
01-OCT-2002
Ovis aries (Sheep).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalla; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea,

Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               exercise training.";
Submitted (DEC-2001) to the EMBL/GenBank/DDBJ
EMBL; AF461807; AAL85286.1; -.
InterPro; IPR000072; PD_growth_factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sus scrofa (Pig).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q8SPZ9;
                                                                                                                                                                                                                                                                                                      01-OCT-2000 (TrEMBLrel. 15,
01-OCT-2000 (TrEMBLrel. 15,
01-MAR-2003 (TrEMBLrel. 23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
NON_TER 124 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProDom; PD001629; PD_growth_factor;
SMART; SM00141; PDGF; 1
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PROSITE; PS50278; PDGF 2; 1.
SEQUENCE 190 AA; 22342 MW;
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SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                      Vascular endothelial growth
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Pfam; PF00341; PDGF; 1.
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Similarity 75.0%;
15; Conservative
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Pred. No. 0.00011;
2; Mismatches 1
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3.5e-05;
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  Q96L82;
Q96L82;
01-DEC-2001
01-DEC-2001
01-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-Kidney;
Sugiono M., Winkler M., Gillatt D., Harper S.J., Bate Sugiono M., Winkler M., Gillatt D., Harper S.J., Bate "A new isoform of vascular endothelial growth factor regulated in renal tumors.";
(In) Unknown A. (eds.);
(In) Unknown A. (eds.);
Proceedings of the 7th World Congress on Microcircula Sydney, Australia (2001).
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Q96KJ0;
Q1-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-MAR-2003 (TrEMBLrel. 23,
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InterPro; IFR000072; PD growth_factor.
Pfam; PF00341; PDGF; 1.
ProDom; PD001629; PD growth_factor; 1.
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                       SEQUENCE
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Mammalia; Eutheria;
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PROSITE; PS50278; PDGF_2; 1.
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SMART; SM00141; PDGF; 1.
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Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases EMBL; AF250375; AAF75258.1; -. HSSP; P49763; 1FZV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zheng J., Tsoi S.C., Magness R.R.; "Growth factor expression in ovine fetal placental artery endothelial" (S_{\rm c})^{-1}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE=Placental artery endothelium; Zheng J., Tsoi S.C., Magness R.R.;
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PS50278; PDGF-2; 1.
PS1 AA; 22258 MW;
                                                                                                                                                                                                 APTTE-GEQKSHEVIKFMDVY 20
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                                                                                                                                                                             APMAEGGGQNHHEVVKFMDVY
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  (TrEMBLrel. (TrEMBLrel. (TrEMBLrel.
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                                                                                PRELIMINARY;
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                                                                                                                                                                                                                                                                        57.5%;
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Pred. No.
                                                                                                                                                                                                                                                        Score 65.5; DB 4; Length 191;
Pred. No. 0.0067;
1; Mismatches 5; Indels
                                                                                PRT;
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Q95NE5
    Q9BDP7
ID QS
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Q9BDP7;
01-JUN-2001
01-JUN-2001
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Q95NE5;
01-DEC-2001
01-DEC-2001
                                                                                                                                                                                                                                                                                                               Pfam; PF00341; PDGF; 1.

ProDom; PD001629; PD growth factor; 1.

PROSITE; PS00249; PDGF 1; 1.

PROSITE; PS50278; PDGF 2; 1.

SEQUENCE 191 AA; 22314 MW; CCE5709
                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=96245208; PubMed=8641836;
Shima D.T., Gougos A., Miller J.W., Tolentino M., Robinson G.,
Adamis A.F., D'Amore P.A.;
"Cloning and mRNA expression of vascular endothelial growth factor
ischemic retinas of Macaca fascicularis.";
Invest. Ophthalmol. Vis. Sci. 37:1334-1340(1996).
EMBL; S82167; AAB47118 1; - . .
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"Cloning of vascular endothelial growth factor (VEGF) cDNA.";
Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AY047581; AAK95847.1; -..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
Cercopithecinae; Macaca.
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PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
SEQUENCE 191 AA; 22314 MW; CCE5709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMVEGF165
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Pfam; PF00341; PDGF; 1.
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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l Similarity 66.7%;
14; Conservative
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                                                                                                                                                           APMAEGGGONHHEVVKFMDVY
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ilarity 66.7%;
Conservative
    (TrEMBLrel. 17, (TrEMBLrel. 17,
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                                                              PRELIMINARY;
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Last annotation updat
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Pred. No. 0.00
1; Mismatches
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Pred. No. 0.0067;
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RESULT 14
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Matches 11
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01-JAN-1998
01-MAR-2003
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042571;
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Submitted (JAN-2001) to the EMBL/GenBa
EMBL; AF339737; AAKZ6379.1; -.
HSSP; P49763; 1FZV.
InterPro; IPR000072; PD_growth_factor.
Defam. DEOGA31: DDGF: 1
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Vascular endothelial growth factor (Fragment).
Macaca mulatta (Rhesus macaque).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
Cercopithecinae; Macaca.
NCBI_TaxID=9544;
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ProDom; PD001629; PD_growth_factor;
SMART; SM00141; PDGF; 1.
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SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
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HSSP; P49763; 1FZV.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleost
Eukaryota; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                           PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
SEQUENCE 148 AA; 17234 MW;
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InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
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                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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                              EGEOKSHEVIKFMDVY 20
EGDHKPTEVVKFLKVY 47
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(TrEMBLrel.
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he EMBL/GenBank/DDBJ databases.
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Xenopus embryo.";
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sMART; SM00141; pDGF; 1.
pROSITE; pS00249; pDGF 1; 1.
pROSITE; pS50278; pDGF 2; 1.
sEQUENCE 194 AA; 22572 MW; 85D7BEC
                                                                                                                                                                                                         Cleaver O., Tonissen K.F., Saha M.S., Krie, "Neovascularization of the Xenopus embryo. Dev. Dyn. 0:0-0(1997).
EMBL; AP008594; AAB63680.1; -.
HSSP; P49763; 1FZV.
InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; l
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea;
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completed: January me : 22.7538 secs
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           30, 2004, 11:44:40
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Last sequence update)
Last annotation updat
factor 196.
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Minimum DB
Maximum DB
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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1: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1980.DAT:*

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5: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*

6: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1985.DAT:*

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| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1988.DAT:*
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| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1999.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:*
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| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:*
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Copyright (c) 1993 - 2004 Compugen Ltd
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Pred. No. is the score greater the and is derived h is the number of results predicted by chance to have a ater than or equal to the score of the result being printed, rived by analysis of the total score distribution.

SUMMARIES

Bovine VEGF-164. Human VEGF-165. H Vascular endotheli Vascular endotheli	AAR38920 AAR38921 AAW31085 AAW31086	14 18 18		86.9 86.9	206 206 206	9876
Immunogenic peptid Human vascular end Human vascular end Human vascular end Bovine vascular en	AAE15417 AAE15417 AAE15418 AAE15419 AAR10911	21 23 23	41 51 75 92	100.0 86.9 86.9	237 206 206 206 206	-13ω4z
Description	ID	DB	Query Match Length DB	Query Match	· O	Result No.

4	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29 .	28	27	26	25	24 .	23	22	21	20	19	18	17	16	15	14	13	12	11	10
206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206	206
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191	191	191	191	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	189	189	189	165	165	165	165	165	165	165	165	165	165	165	165
17	17	16	11	23	22	22	22	22	21	20	20	19	19	19	13	13	13	13	11	11	22	21	20	24	20	18	18	18	18	18	18	18	18	18	18
AAR94002	AAW00724	AAR91076	AAR08002	ABB57038	AAB73962	AAB73961	AAB37504	AAY97567	AAY57028	AAY33441	AAY33440	AAW53643	AAW53642	AAW53639	AAR27352	AAR27351	AAR27350	AAR22347	AAR08001	AAR08120	AAG66457	AAY92005	AAY08281	ABP56770	AAY08280	AAW31096	AAW31095	AAW31094	AAW31093	AAW31092	AAW31091	AAW31090	AAW31089	AAW31088	AAW31087
VEGF165. Homo sap	Vascular endotheli	scular	vascular	Mouse ischaemic co	H		Rat VEGF subunit A	Human GDGF protein	Vascular endotheli	Parapox virus VEGF	<					얁	uence of v	Rat Vascular Endot	Bovine vascular en	Mammalian glioma-d		vascula	Human growth facto	vascula	owth fact		endothel		Vascular endotheli	endothel		endothel	Vascular endotheli	endothe	Vascular endotheli

ALIGNMENTS

15-JAN-2001 (first entry) AAB18547; AAB18547 standard; peptide; 41 B

Immunogenic peptide fragment derived from FGF and/or VEGF.

ARBISULT 1
AAB187
IID AAB181
XX
AAB187
AC AAB1
XX
XX
IMMU
XX
IIMMU
XX
IIMMU Immunogenic peptide; fibroblast growth factor; PGF; VEGF; cancer; vascular endothelial growth factor; hyperproliferative disorder; haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis; telangiectasia; psoriasis; scleroderma; pyogenic granuloma; myocardial angiogenesis; Crohn's disease; plaque neovascularisation; arteriovenous malformation; corneal disease; rubeosis; neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia; arthritis; diabetic neovascularisation; macular degeneration; wound healing; peptic ulcer; Helicobacter related disease; fracture; keloid; vasculogenesis; hematopoiesis; ovulation; menstruation; placentation; cat scratch fever.

Unidentified.

WO200053219-A2

14-SEP-2000

10-MAR-2000; 2000WO-US06320

11-MAR-1999; 99US-0266543

(ENTR-)

ENTREMED

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RESULT 2
AAE15417
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hyperproliferative disorders, especially haemangioma, solid tumours, blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis, scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's disease, plaque neovascularisation, arteriovenous malformations, corneal diseases, rubeosis, neovascular glaucoma, diabetic retinopathy, retrolental fibroplasia, arthritis, diabetic neovascularisation, macular degeneration, wound healing, peptic ulcer, Helicobacter related diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation,
                                                                                                                                                                                                                                                                                                                                      Human; prophylaxis; therapy; cellular proliferation; lysyl oxidase; LO; microorganism infection; angiogenesis; replication; teratocarcinoma; germ cell tumour; osteosarcoma; fibrosarcoma; angiogenic disease; AIDS; acquired immune deficiency syndrome; hyperplastic disease; inflammation cancer; melanoma; lesion; wound; HIV-1; human immunodeficiency virus;
 WPI; 2002-062187/08
                               Li W, Kagen HM;
                                                                                              10-MAY-2000; 2000US-202568P
                                                                                                                            10-MAY-2001; 2001WO-US15191.
                                                                                                                                                               15-NOV-2001
                                                                                                                                                                                              WO200185157-A1
                                                                                                                                                                                                                                             Domain
                                                                                                                                                                                                                                                            Key
                                                                                                                                                                                                                                                                                          Unidentified
                                                                                                                                                                                                                                                                                                                       vascular endothelial growth factor; VEGF165.
                                                                                                                                                                                                                                                                                                                                                                                                                                   Human vascular endothelial growth factor 165 C-terminal protein fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAE15417;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAE15417 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  growth factor (PGF) and/or vascular endothelial growth factor The peptides are used to produce immunogenic compositions. The immunogenic composition is used for treating cancer or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB18542-51 represent immunogenic peptide fragments of fibroblast growth factor (FGF) and/or vascular endothelial growth factor (VEGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              An immunogenic composition useful for treating cancer or hyperproliferative disorders comprises an immunogenic peptide fragment of fibroblast growth factor and/or vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         menstruation, placentation and cat scratch fever.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Holaday JW,
                                                               (UYBO-) UNIV BOSTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CERRKHLFVQTCKCSCKNTDSRCKARQLENERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Page 28; 95pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%;
ilarity 100.0%;
Conservative (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA;
                                                                                                                                                                                                                                           Location/Qualifiers 9..51
                                                                                                                                                                                                                           /note= "Lysine and arginine-rich basic domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Madsen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  51
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 237; DB 2
Pred. No. 1e-18;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           41;
                                                                                                                                                                                                                                                                                                                                                       inflammation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
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Composition for prophylaxis and treatment of a condition associated with abnormal cellular proliferation, angiogenesis or microorganism infection, comprises active portion of an inhibitor, preferably lysyl
                                                                                                      Disclosure; Fig 1; 97pp; English.
       growth.
51
A
A
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Query Match Best Local S Matches 40 œ 2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR l Similarity 40; Conserv ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 51 Conservative 86.9**%**; 0, Score 206; DB 23; Pred. No. 2.7e-15; 0; Mismatches 0 0 Length 51; Indels 41 4 Gaps

2

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RESULT 3
AAE15418
ID AAE1
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밁 Ś

Sequence

AAE15418 standard; Protein; 75 æ

AAE15418;

12-MAR-2002 (first entry)

Human vascular endothelial growth factor 189 C-terminal protein fragment.

Human; prophylaxis; therapy; cellular proliferation; lysyl oxidase; LO; microorganism infection; angiogenesis; replication; teratocarcinoma; germ cell tumour; osteosarcoma; fibrosarcoma; angiogenic disease; AIDS; acquired immune deficiency syndrome; hyperplastic disease; inflammation cancer; melanoma; lesion; wound; HIV-1; human immunodeficiency virus; vascular endothelial growth factor; VEGF189 inflammation;

Unidentified

Domain Location/Qualifiers

"Lysine and arginine-rich basic domain"

WO200185157-A1

10-MAY-2001; 2001WO-US15191.

10-MAY-2000; 2000US-202568P

(UYBO-) UNIV BOSTON

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RESULT 4
AAE15419
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                        Human; prophylaxis; therapy; cellular proliferation; lysyl oxidase; Iv microorganism infection; angiogenesis; replication; teratocarcinoma; germ cell tumour; osteosarcoma; fibrosarcoma; angiogenic disease; AIDi acquired immune deficiency syndrome; hyperplastic disease; inflammatic cancer; melanoma; lesion; wound; HIV-1; human immunodeficiency virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AIDS (acquired immune deficiency syndrome) associated malignancies, other tumours and hyperplastic diseases with or without inflammation. It is also useful for treating diseases associated with angiogenesis, abnormal cellular proliferation, preferably human cell proliferation (e.g., tumour, lesion or wound), angiogenesis or conditions associated with microorganism infection such as AIDS caused by HIV-1. It is useful for modulating cellular proliferation and angiogenesis by contacting mitogenic and angiogenic factor and determining regulation of cell proliferation. The present sequence is vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           inactivates and oxidises a growth factor, angiogenic factor or a trar activator for replication of the microorganism. The compositions of the invention are useful for prophylaxis and treatment of conditions such as cancers of the breast, colon, renal, prostate, ovary, lung, brain, uterus, skin, embryo carcinoma, teratocarcinoma, germ cell tumour, osteosarcoma, fibrosarcoma, melanoma, angiogenic diseases,
10-MAY-2001; 2001WO-US15191.
                                           15-NOV-2001
                                                                                WO200185157-A1
                                                                                                                                                                                                                                                                                              Human vascular endothelial growth factor 206 C-terminal protein fragment
                                                                                                                                                                                                                                                                                                                                         12-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                   AAE15419 standard; Protein; 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        factor (VEGF) 189 C-terminal protein fragment. VEGF is a substrate for LO. The oxidation of lysine residues of VEGF by LO dramatically reduces their mitogenic potential and thus inhibits normal and tumo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The patent discloses compositions and methods for prophylaxis and treatment of conditions associated with abnormal cellular proliferation, angiogenesis or microorganism infection. The composition comprises an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Fig 1; 97pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Composition for prophylaxis and treatment of a condition associated with abnormal cellular proliferation, angiogenesis or microorganism infection, comprises active portion of an inhibitor, preferably lysyl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2002-062187/08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   active portion of an inhibitor, preferably lysyl oxidase (LO)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ß,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     90.9%;
                                                                                                                                                          growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 206; DB 23;
Pred. No. 3.8e-15;
0; Mismatches 0;
                                                                                                                                                            VEGF206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 75;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                         lysyl oxidase; LO;
                                                                                                                                                                                                 inflammation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                trans-
                                                                                                                                                                                                                    AIDS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2:
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ARESULT 5
AAR10911
ID AAR11
XX AAR1
XX AAR1
XX AAR1
XX BOV1
XX BOV1
XX BOV1
XX WOUN
XX WO91
XX WO91
XX YF 27-;
XX

wound

25-MAR-2003 08-MAY-1991 AAR10911;

(updated)
(first entry)

AAR10911 standard; Protein; 164

Bovine vascular endothelial cell

growth factor; angiogenesis;

healing; bVEGF; PDGF

Bovine vascular endothelial cell growth factor 164.

27-JUL-1990;

90WO-US04227

21-FEB-1991.

밁 S

49

ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 92

Matches Query Match Best Local &

40; N

Conservative

0

Score 206; DB 23; Pred. No. 4.5e-15; 0; Mismatches 0

0,

4

Gaps

2

Similarity

90.9%;

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CC treatment of conditions associated with abnormal cellular proliferation, CC angiogenesis or microorganism infection. The composition comprises an CC active portion of an inhibitor, preferably lygyl oxidase (LO) which CC inactivates and oxidises a growth factor, angiogenic factor or a transcactivator for replication of the microorganism. The compositions of CC activator for replication of the microorganism. The compositions of the invention are useful for prophylaxis and treatment of conditions of CC the invention are useful for prophylaxis and treatment of conditions of tumour, osteosarcoma, fibrosarcoma, retaratocarcinoma, germ cell CC tumour, osteosarcoma, fibrosarcoma, melanoma, angiogenic diseases, CC AIDS (acquired immune deficiency syndrome)-associated malignancies, CC other tumours and hyperplastic diseases with or without inflammation. CC It is also useful for treating diseases with or without inflammation CC (e.g., tumour, lesion or wound), angiogenesis or conditions associated with microorganism infection such as AIDS caused by HIV-1. It is useful CC microgenic and angiogenic factor and determining regulation of cell proliferation. The present sequence is vascular endothelial growth factor (VEGF) 206 C-terminal protein fragment. VEGF is a substrate of croduces their infection residues of VEGF by LO dramatically
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Composition for prophylaxis and treatment of a condition associated with abnormal cellular proliferation, angiogenesis or microorganism infection, comprises active portion of an inhibitor, preferably lysyl
Sequence
                                         cell growtn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2002-062187/08
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                                                                     reduces their mitogenic potential and thus inhibits
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kagen HM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         discloses compositions and methods for prophylaxis and
  92 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fig 1; 97pp; English.
                                                                       normal and tumour
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ARESULT 6
AAR38920
ID AAR3
XX AAR3
AC AC AAR3
AC AC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     obtaining CDNA encoding bVEGF (164 amino acids from). The probes crepresented in AAQ10806 and -07 were used in the screening procedures. See AAQ10796 for bVEGF120 which is obtained by alternative splicing of this sequence, i.e. bases 342-473 (amino acids 115-158) are splicing of this sequence, i.e. bases 342-473 (amino acids 115-158) are splicing. The product can be used for angiogenesis and re-endothelialisation of inner vascular surfaces in wound healing, e.g. treatment of full-thickness wounds such as dermal ulcers, venous ulcers and diabetic ulcers, burns, in surgery, in balloon angioplasty and for the in vitro culturing of endothelial cells. Hybrid growth factors of PDGF and VEGF can exhibit a mitogenic profile between each factor and can be used for wound healing or as inhibitors of angiogenesis for e.g. preventing the growth of tumours.

CC VEGF analogues in which CYS residues are substd. are more stable. See also AAQ10791-93; AAQ10796-97; AAQ10806-08 and AAQ11099.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 40
    27-JUL-1989;
                                            27-JUL-1990;
                                                                                            15-JUN-1993.
                                                                                                                                                                                                                                                                                                                                                                   Angiogenesis; wound healing; mitogen; vascular endothelial cells, Vascular Endothelial Cell Growth Factor; bVEGF-164; bVEGF-120.
                                                                                                                                                                                                                                                                                                                                                                                                                                       Bovine VEGF-164.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25-MAR-2003
28-OCT-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR38920;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bovine folliculo stellate cells were used in the process of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Fig 6(1-3); 94pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA encoding vascular producing the factor f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1991-073534/10
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27-JUL-1989;
                                                                                                                                         US5219739-A
                                                                                                                                                                                                                                                      Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR38920 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in wound healing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (CALD )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ER,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CALIFORNIA BIOTECHNOLOGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    164 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Abrhamam,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (updated)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     89US-0450883
89US-0387545
    89US-0387545
                                               90US-0559041.
                                                                                                                                                                                                                                                          114..158
                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             86.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       r endothelial cell growth factor - used for for angiogenesis and re-endothelialisation
                                                                                                                                                                                 "encoded by exon which is absent in the alternatively spliced coding sequence which encodes bVEGF-120"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fiddes JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ٠,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 206; DB 12;
Pred. No. 7.6e-15;
0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mitchell RL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
    DRX PX BX BRX FX BX PX FFFFF X SX X X X DX TDTX AX X D
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AAR38921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                     27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Isolated DNA sequences, expression vectors and transformant cells - used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
WPI; 1993-205302/25
N-PSDB; AAQ44260.
                                                                                                                                                                                                                                                                       Region
                                                                                                                                                                                                                                                                                                                                                                                                                         Human VEGP-165
                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-MAR-2003
28-OCT-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAR38921;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR38921 standard; Protein; 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sequence gives a shorter coding sequence which amino acid bVEGF (see AAR38916).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The sequence of AAQ44259 contains an open reading frame correst to the 164 amino acid bovine vascular endothelial cell growth factor (bVEGF-164, i.e. AAR18920). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 4 and Claim 1; Fig 6; 40pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14-DEC-1989;
27-JUL-1990;
                                           Abraham JA,
                                                                                                                                                                  27-JUL-1990;
                                                                                                                                                                                              15-JUN-1993.
                                                                                                                                                                                                                           US5219739-A
                                                                                                                                                                                                                                                                                                    Misc-difference
                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                            Angiogenesis; wound healing; mitogen; vascular endothelial cells; Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           required
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1993-205302/25.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Abraham JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Updated
                                                                         (SCIO-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAQ44259.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SCIOS NOVA INC.
                                                                         SCIOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          on 25-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             164 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                             Fiddes JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fiddes JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                       (updated)
(first entry)
                                                                      NOVA INC
                                                                                                     89US-0387545.
89US-0450883.
90US-0559041.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          89US-0450883.
90US-0559041.
                                                                                                                                                                  90US-0559041
                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                          /note=
                                                                                                                                                                                                                                                                                      note= "inserted amino acid relative to bVEGF"
                                                                                                                                                                                                                                                                          . 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90.9%;
                                                                                                                                                                                                                                                         "replaced by Lys in hVEGF-121"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         to correct PF field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mitchell RL,
                                           Mitchell RL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 206; DB 14;
Pred. No. 7.6e-15;
0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tischer EG
                                             Tischer EG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  corresponding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4.
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<u>ب</u>

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ARBSULT 8
AAW3108
AAW3108
AAW3108
AAW3108
AAW308
AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches 40
                                                                                                                                                                                                             02-AUG-1996;
25-AUG-1995;
05-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note=
Misc-difference 64
                                              WPI;
                                                                                               Cunningham Wells JA;
                                                                                                                                                                                                                                                                                                                                                           06-MAR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vascular endothelial growth factor variant used in drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAW31085;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAW31085 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequence gives a shorter coding sequence which encodes the 121 amino acid hVEGF (see AAR42607). The full-length coding sequences be generated using PCR with human foetal vascular smooth muscle
                                                                                                                                                                                                                                                                                                             23-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                     W09708313-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  пеоргавіа.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VEGF; vascular endothelial growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Isolated DNA sequences, expression vectors and transformant cells - used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16-JAN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         poly-A+ RNA as template. (Updated on 25-MAR-2003 to correct PF field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The sequence of AAQ44260 contains an open reading frame corresponding to the 165 amino acid human vascular endothelial cell growth factor (hVEGF-165, see AAR38921). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 7; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          required
                                                                                                                                                                 (GETH ) GENENTECH INC.
                                                1997-179270/16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ERRICHLEV---
                                                                                                                   BC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                165 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                             96US-0691791.
95US-0002827.
95US-0567200.
                                                                                                                                                                                                                                                                                                          96WO-US13621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7; 40pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                     Ferrara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          67
                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "wild-type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note= "wild-type Glu replaced by Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein; 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "wild-type Asp
                                                                                                                   z
                                                                                                                   Keyt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 206; DH
Pred. No. 7.6e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    Glu
                                                                                                                   ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 replaced by Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            replaced
                                                                                                                B
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.6e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             variant; mutant
                                                                                                                Nguyen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              γď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                   Ŧ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       screening.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>ب</u>
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Vascular endothelial cell growth factor variant - used to identify

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RESULT 9
AAW310E6
ID AAW3
XX AAW3
XX AAW3
AC AAW3
XX VASC
XX VEGF
XW VEGF
XW SUDS
KW SUDS
KW TMS-
KW TMS-
KW THOMO
OS SYNTT
XX KEY
FT Misc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PH XXX PR R XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 40
                                                                                          02-AUG-1996;
25-AUG-1995;
05-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the PMS-like tyrosine kinase binding region (FLT-1). All indicated residues are preferably replaced with alanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FLT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis is desired for treatment of an underlying disease state.
                                                                                                                                                                                                                                                                                                                                    Homo sapiens.
Synthetic.
                         Cunningham Wells JA;
                                                                                                                                                                         06-MAR-1997.
                                                                                                                                                                                                                                           Misc-difference
                                                                                                                                                                                                                                                                     Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
WPI; 1997-179270/16.
                                                                                                                                               23-AUG-1996;
                                                                                                                                                                                                    WO9708313-A1
                                                                                                                                                                                                                                                                                              Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                         FMS-like tyrosine kinase binding region; FLT-1; drug screening;
testing; vasculogenesis; angiogenesis; metastasis; cancer; tumo
                                                                                                                                                                                                                                                                                                                                                                                                                     substitution;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vascular endothelial growth factor variant used in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-JAN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW31086;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAW31086 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            candidates having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                             VEGF; vascular endothelial growth factor; variant; mutant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAW31085-W31096 are vascular endothelial growth factor (VEGF) variants.
                                                                 (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            from a claimed specified mutant of wild-type mature VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ERRKHLFV----QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Page -; 130pp;
                                       BC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  165 AA;
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95US-0002827.
95US-0567200.
                                                                                                                                               96WO-US13621.
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                                        Ferrara
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                                                                                                                                                                                                                                                                                  by Ala"
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RESULT 10
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02-AUG-1996;
25-AUG-1995;
                                         23-AUG-1996;
                                                                     06-MAR-1997.
                                                                                                                                           Misc-difference
                                                                                                                                                                      Misc-difference
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                                                                                                                                                                                                                                                                                        Misc-difference
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                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                      VBGF; vascular endothelial growth factor; variant; mutant; substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FIJT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16-JAN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAW31087 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             useful for treating indications where vasculogenesis or angiogenesis is desired for treatment of an underlying disease state.

N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Vascular endothelial cell growth factor variant - used to identify candidates having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding
                                                                                                  WO9708313-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Page -; 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    165 AA;
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96US-0691791.
95US-0002827.
                                         96WO-US13621
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67
                                                                                                                                                                                                                                                            64
                                                                                                                           /note= "wild-type His
                                                                                                                                                          note=
                                                                                                                                                                                   'note= "wild-type Arg
                                                                                                                                                                                                               note= "wild-type
                                                                                                                                                                                                                                                                        note= "wild-type Asp replaced by Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                             growth factor variant used in drug screening.
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90.9%;
                                                                                                                                                       "wild-type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
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Pred. No. 7.6e-15;
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RESULT 11
AAW31088
ID AAW31
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TO CONTROL OF THE PROPERTY OF 
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Best Local S
Matches 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the PMS-like tyrosine kinase binding region (FLT-1). All indicated residues are preferably replaced with alanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FLT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis is desired for treatment of an underlying disease state.

N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
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                                                                                 06-MAR-1997.
                                                                                                                                                                                                                      Misc-difference
                                                                                                                                                                                                                                                                             Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VEGF; vascular endothelial growth factor; variant; mutant; substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FTF-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumou:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vascular endothelial growth factor variant used in drug screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16-JAN-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW31085-W31096 are vascular endothelial
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40; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               165 AA;
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Pred. No. 7.6e-15;
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23-AUG-1996;

96WO-US13621

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RESULT 12
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25-AUG-1995;
05-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAW31085-W31096 are vascular endothelial growth factor (VEGF) variant Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FIT-1). All indicated residues are preferably replaced with alanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FIT receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FIT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis is desired for treatment of an underlying disease state.

N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vascular endothelial cell growth factor variant - used to identify candidates having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding
           06-MAR-1997
                                                                              Misc-difference
                                                                                                        Misc-difference
                                                                                                                                                                            Synthetic
                                                                                                                                                                                          Homo sapiens.
                                                                                                                                                                                                                               substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumou
                                                                                                                                                                                                                                                                         VEGF; vascular endothelial growth factor; variant; mutant;
                                                                                                                                                                                                                                                                                                      Vascular endothelial growth factor variant used
                                                                                                                                                                                                                                                                                                                                  16-JAN-1998
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95US-0002827.
95US-0567200.
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                                                                                                                     /note= "wild-type Phe replaced by Ala"
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Pred. No. 7.6e-15;
0; Mismatches 0;
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                                                              replaced by Ala"
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RESULT 13
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                                                                                                                                          Homo sapiens.
Synthetic.
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Misc-difference
                       Misc-difference
                                                 Misc-difference
                                                                                                                                                                                             substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumour;
                                                                                                                                                                                                                                                                Vascular endothelial growth factor variant used in
                                                                                                                                                                                                                                                                                                                                               AAW31090 standard; Protein; 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                useful for treating indications where vasculogenesis or angiogenesis is desired for treatment of an underlying disease state.

N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
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                                                                            Misc-difference
                                                                                                                                                                                                                                       VEGF; vascular endothelial growth factor; variant; mutant;
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                                                                                                      Location/Qualifiers
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RESULT 14
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                                                                                                    VEGF; vascular endothelial growth factor; variant; mutant; substitution; drug screening; kinase domain binding region; KDR FMS-like tyrosine kinase binding region; FLT-1; drug screening;
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  Misc-difference
                                        Synthetic
                                                     Homo sapiens.
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                                                                                           testing; vasculogenesis; angiogenesis; metastasis; cancer; tumour;
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sequence is not given in the specification, it was created aimed specified mutant of wild-type mature VEGF.
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N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
             Homo sapiens.
Synthetic.
                                                                    substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculogenesis; anglogenesis; metastasis; cancer; tumou
                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
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N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
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Minimum
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Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq
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1: /cgn2 6/ptodata/1

2: /cgn2 6/ptodata/1

3: /cgn2 6/ptodata/1

4: /cgn2 6/ptodata/1

5: /cgn2 6/ptodata/1

6: /cgn2 6/ptodata/1
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237
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CERRKHLFVQTCKCSCKNTD.....RCKARQLENERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/baCtTUS_COMB.pep:*
/cgn2_6/ptodata/1/iaa/backfiles1.pep:*
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GenCore version 5.1.6 (c) 1993 - 2004 Compugen
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        US-08-567-200A-2

US-08-807-992B-2

US-08-91-794-2

US-08-795-430-56

US-09-355-700-56

US-09-355-700-56

US-09-355-700-56

US-08-882-816-2

US-09-574-708A-6

US-08-802-052B-2

5332671-4

US-09-244-83-26

US-09-574-708A-6

US-09-586-039B-35

US-09-594-769-35
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US-08-569-063C-20
US-08-586-039B-31
US-09-699-769-31
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US-08-802-052B-3
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5219739-17
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99.405 Million cell updates/sec
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Sequence 3, Appli
Patent No. 5194596
Patent No. 5219739
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Sequence 2
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Patent No. 5332671
Sequence 2, Appli
Sequence 2, Appli
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37.8	37.8	37.8	37.8	42.2	69.2	84.0	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9
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US-08-807-992B-30	US-08-807-992B-16	US-08-807-992B-13	US-08-807-992B-7	US-08-807-992B-29	US-09-244-583-20	US-09-431-888-4	US-09-574-708A-10	US-09-042-105-7	US-08-807-992B-4	US-08-824-996-9	US-08-999-811-7	PCT-US96-09001-10	5240848-7	5219739-22	US-09-699-769-49	US-08-586-039B-49	US-08-807-992B-3
Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Patent No.	Patent No.	Sequence	Sequence	Sequence
30,	16,	13,	7,	29,	20,		10,	7,	4	9	7	10,	52	52	49,	49,	Ü
App	App	App.	App1:	Appl	Appl	Appl:	Appl	Appli	Appli	Appli	Appli	App	5240848	5219739	Appl	App	Appl:

ALIGNMENTS

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;PATENT NO. 5219739
; PATENT NO. 5219739
; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES,
;JOHN C.;MITCHELL, RICHARD L.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND
;HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
;VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121
; NUMBER OF SEQUENCES: 40
;CURRENT APPLICATION NUMBER: US/07/559,041
;FILING DATE: 27-UUL-1990
;FILING DATE: 27-UUL-1989
;APPLICATION NUMBER: 450,883
;FILING DATE: 27-JUL-1989
;FILING DATE: 27-JUL-1989
;FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 1
5194596-17
; Patent No. 5194596
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 2
5219739-17
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                                                                5219739-17
                                                                                                     SEQ ID NO:17:
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Query Match
Best Local Similarity
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Best Local Similarity
Matches 40; Conserv
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/45
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                  LENGTH: 164
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nilarity 90.9%;
Conservative
    86.9%;
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Pred. No. 1.1e-16;
0; Mismatches 0
    Score 206; DB 6;
Pred. No. 1.1e-16;
                     Length 164;
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RESULT 3
5219739-18
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: TISCHER,
JOHN C.; MITCHELL, RICHAL
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121 NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Patent No. 6395707
                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
FILING DATE: 14-FEB-1997
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
                                                               PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
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                               APPLICATION NUMBER: US 08/802,052 FILING DATE: 14-FEB-1997
                                                                                                  APPLICATION NUMBER: US/08/882,816 FILING DATE: 26-JUN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                 TLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
                                                                                      CLASSIFICATION:
                                                                                                                                                                                                                                                        COUNTRY: United States ZIP: 94111-4187
                                                                                                                                                                                                                                                                                                                                 STREET:
                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION:
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                                                                                                                                                                                                                                                                                                                 San Francisco
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Application US/08882816
                                                                                                                                                                                                                                                                                               California
                                                                                                                                                                                                                                                                                                                                   E: Flehr Hohbach Test Albritton & Herbert LLP Four Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Richard, Brigitte M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Keck, Rodney G.
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Deguzman, Geralyn G.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nishit
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                                                                                                                                                                                                                                                                                                                                                                                                                             VARIANTS OF VASCULAR ENDOTHELIAL CELL GROWTH FACTOR HAVING ALTERED PHARMACOLOGICAL PROPERTIES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90.98;
                                                                                                                                                                                                                                                                                                                                                                                                              AND RELATED ASPECTS THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US/07/559,041
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2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41

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 Matches
              Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
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Best Local Similarity
                                                                                                                                                                          TELEFAX: (415) 398-324
TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (415) 398-324
TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                      CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Vance, Dolly Å.
REGISTRATION NUMBER: 39,054
REFERENCE/DOCKET NUMBER: A-
                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0, V
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/802,052B
                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                             TOPOLOGY: un MOLECULE TYPE:
                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 165 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: unknown MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                        TELEPHONE: (415) 781-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: FILING DATE: 14-FE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: United ZIP: 94111-4187
                                                                                                           STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: San Francisco
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION:
 40;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            amino acid
                                                                                                                             amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              E: Flehr, Hohbach, Test, Four Embarcadero Center,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              United States
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Keck, Rodney G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (415) 398-3249
 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zioncheck, Thomas F.
Deguzman, Geralyn G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                               unknown
                                                                                                                                                                                                                                                                                                                                     14-FEB-1997
                                                                               protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
                                                                                                              unknown
                                                                                                                                                                                                         398-3249
                86.9%;
90.9%;
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GROWTH FACTOR HAVING ALTERED PHARMACOLOGICAL PROPERTIES
AND RELATED ASPECTS THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <u>س</u>
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              Score 206; DB 4;
Pred. No. 1.2e-16;
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Pred. No. 1.2e-16;
 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                     Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Albritton & Herbert
Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                             Length 165;
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 Indels
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 4.
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Gaps
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APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121 NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/559,041

FILING DATE: 27-JUL-1990

PRIOR APPLICATION DATA:

ABPLICATION DATA:

ABPLICATION NUMBER: US/07/559,041
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                                                                                                                                                                                         RESULT 8
US-08-469-427A-15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5194596-18
;Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                               5219739-19
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN;C.;MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO:18:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO:19:
                                                                                                                                                     Sequence 15, Patent No. 5
                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 40; Conserv
                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Pajusola, Katri
TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND
TITLE OF INVENTION: DIA CODING THEREFOR
NUMBER OF SEQUENCES: 17
                                                      APPLICANT: Eriksson, Ulf
APPLICANT: Olofsson, Birgitta
APPLICANT: Alitalo, Kari
APPLICANT: Pajusola, Katri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 165
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                                                                                                                                                                                                                                                                                                ERRKHLFV----QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                        ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ERRKHLFVODPOTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 165
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                                                                                                                                                                       Application US/08469427A
                                                                                                                                                                                                                                                                                                                                                   Conservative
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                                                                                                                                                                                                                                                                                                                                                                   Score 206; DB 6; Length 165; Pred. No. 1.2e-16;
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Pred. No. 1.2e-16;
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US-08-569-063C-20
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patent No.
           COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PATENTIN Release #1.0, VG

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/569,063C

FILING DATE: 06-DEC-1995

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/08/469,427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (202) 628-88
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/469,427A
FILING DATE: 06-UN-1995
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: ERIKSSON, Ulf
APPLICANT: OLOFSSON, Birgitta
APPLICANT: ALITALO, Kari
APPLICANT: PAJUSOLA, Katri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/397,651
FILING DATE: 01-MAR-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Evans, Joseph D
REGISTRATION NUMBER: 26,269
REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
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STATE: LC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 1200 G SU
CITY: Washington
                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                      STATE:
                                                                                                                                                                                                                                                           CITY:
                                                                                                                                                                                                                                                                          STREET:
                                                                                                                                                                                                                                                                                           ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: Evenson, McKeown, Edwards & Lenahan STREET: 1200 G Street, N.W., Suite 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         146 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20, Application US/08569063C
) 5928939
                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION:
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                                                                                                                                                                                                                                                       Washington
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1200 G Street, N.W.,
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ilarity 90.9%;
Conservative
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UMBER: US 08/469,427
06-JUN-1995
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                                                                                                                                                                                                                                                                                                                            VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND DNA CODING THEREFOR 23
                                                                      US/08/569,063C
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Migmatches
                                                                                                                                                                                                                                                                        Edwards & Lenahan, P.L.L.C Suite 700
                                                                                                          Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
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FILING DATE: 01-MAR-1995 ATTORNEY/AGENT INFORMATION: PRIOR APPLICATION DATA:

APPLICATION NUMBER:

UMBER: US 08/397,651 01-MAR-1995

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-586-039B-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 31, App. -- No. 6140073
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GENERAL INFORMATION:
                                                                                                                                                                                                    APPLICATION NUMBER: 08/124,259
APPLICATION NUMBER: 07/676,436
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (202) 628-88
TELEFAX: (202) 628-8844
INFORMATION FOR SEQ ID NO:
                                                                TELEFAX: (908) 594-472
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 190 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: EVANS, JOSEPH D REGISTRATION NUMBER: 26,269
REGISTRATION NUMBER: 1064/41979CP3
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 638-8800
STRANDEDNESS:
TOPOLOGY: lii
MOLECULE TYPE:
                                                                                                                                  REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 594-3905
                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC-DOS/MS-DOS
SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Bayne, Marvin L.
APPLICANT: Thomas Jr., Kenneth A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: Merck & Co.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                               LENGTH: 190 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                      FILING DATE: 1
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Rahway
STATE: New Jersey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 190 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 07065-0900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       147 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application US/08586039B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                      16-JAN-1996
protein
                           single
                                                                                               8) 554
594-4720
NO: 31:
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                                                                                                                                                                            18361DA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 206; DB 2; L
Pred. No. 1.3e-16;
Pred. No. 1.3e-16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
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RESULT 12 5332671-3 ;Patent No. 5332671

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US-09-699-769-31
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                                                                     Matches
                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 31, Application US/09699769 Patent No. 6569434 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local (
                                                                                                                                                                                                                               TELEPHONE: (732) 594-390
TELEPAX: (732) 594-4720
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 190 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTERS IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/699,769
FILING DATE: 30-Oct-2000
CLASSIFICATION: CURROWN>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 08/586,039
FILING DATE: 16-JAN-1996
APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Bayne, Marvin L.
Thomas Jr., Kenneth A.
TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
                                                                                                                                                               SEQUENCE DESCRIPTION: SEQ ID NO: 31:
                                                                                                                                                                              TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION: TELEPHONE: (732) 594-3905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                147 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 190
                                                                     40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     40;
                               2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                             NAME: Hand, J. Mark
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18361DB
ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: Rahway
STATE: New Jersey
                                                                                                                                                                                                                STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIP: 07065-0900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE: Merck & Co.,
                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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                                                                                      86.9%;
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                                                                     0;
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                                                                                        Score 206; DB 4;
Pred. No. 1.3e-16;
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Pred. No. 1.3e-16;
                                                                       Mismatches 0;
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                                                                                                         Length 190;
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                                                                     Indels
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                                                                     Gaps
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RESULT 13
US-08-567-200A-2
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TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR AND DNA ENCODING SAME
NUMBER OF SEQUENCES: 15
CURRENT APPLICATION DATA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO:3:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Query Match 86.9%;
Best Local Similarity 90.9%;
Matches 40; Conservative
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                                                                          TOPOLOGY: 1i
MOLECULE TYPE:
-08-567-200A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Patent No.
                                                                                                                                                                                                                                              CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-62
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/07/38
FILING DATE: 04-AUG-1989
PRIOR APPLICATION DATA:
APPLICATION UDMBER: 369,424
FILING DATE: 21-JUN-1989
APPLICATION NUMBER: 351,117
                                                                                                                                                                  TELEFAX: (415) 398-324:
TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION UMBER: US/08/567,200A FILING DATE: 05-DEC-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMpatible
COMPUTER: IBM PC COMPATIBLE
COPERATING SYSTEM: PC-DOS/MS-DOS
COPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Nguyen, Francis H.
APPLICANT: Ferrara, Napoleone
TITLE OF INVENTION: Variants of Vascular Endothelial Cell
TITLE OF INVENTION: Growth Factor, Their Uses, and Processes
                                                                                                                                                  LENGTH: 191 amino acids
                                                                                                                                                                                                              TELEPHONE: (415) 398-3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 12-MAY-1989
                                                                                                                                  TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          147
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              94111-4187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/08567200P 6020473
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      E: Flehr, Hohbach, Test,
Four Embarcadero Center,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                United States
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                                                                                                                  linear
                                                                                              protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  86.9%; Score 206; DB 6; Length 190; 90.9%; Pred. No. 1.3e-16;
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                                                                                                                                                                                                                                                                                          A-62326-1/WHD
0,
Score 206; DB 3;
Pred. No. 1.3e-16;
0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Albritton & Herbert
Suite 3400
                                    DB 3; Length 191;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
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Indels
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N
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RESULT 15
US-08-691-794-2
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US-08-807-992B-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: Senger, Donald R
APPLICANT: DVOTAK, Harold F
TITLE OF INVENTION: Immunol
TITLE OF INVENTION: specifi
TITLE OF INVENTION: vessel
                                                                                                                                                                                                                                       Sequence 2, Application US/08691794 Patent No. 6057428
                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                   APPLICANT: Cunninghan
APPLICANT: Wells, Jan
APPLICANT: Li, Bing
TITLE OF INVENTION: V
TITLE OF INVENTION: C
                                                                                                         APPLICANT: Keyt, bruce H.
APPLICANT: Nguyen, Francis H.
APPLICANT: Ferrara, Napoleone
APPLICANT: Cunningham, Brian C.
APPLICANT: Wells, James A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OPERATING SYSTEM: MS DOS
SOFTWARE: WordPerfect version
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,
FILING DATE: March 3, 1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Egg.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
COMPUTER: IBM PS/1
                   NUMBER OF SEQUENCES: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 3:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: STRANDEDNESS: 814
                                                                                                                                                                                                                                                                                                                                                                                                                                             Match 86.9%;
Local Similarity 90.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 191 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIP: 01930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: Magnolia
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                       148
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                                                                                                                                                                                                                                                                                                                                                                                         2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                     ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 191
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                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       David Prashker,
Flehr, Hohbach, Test, Albritton & Herbert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Diskette, 3.50 inch, 1.40 Mb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blood vessel
                                                       Production
                                                                    Variants of Vascular Endothelial Cell
Growth Factor, Their Uses, and Processes for their
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US/08807992B
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                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 206; DB 3;
Pred. No. 1.3e-16;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 191;
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STREET: Four Embarcadero Center, CITY: San Francisco
STATE: California
COUNTRY: United States
ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TYPE: Flopy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN DATA:
APPLICATION NUMBER: US/08/691,794
FILING DATE: 02-AUG-1996
CLASSIFICATION UNMEER: US 60/002,827
FILING DATE: 25-AUG-1995
PRIOR APPLICATION NUMBER: US 08/567,200
FILING DATE: 05-DEC-1995
PRIOR APPLICATION NUMBER: US 08/567,200
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Walter H.
REGISTRATION NUMBER: A-63758/WHD
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 398-3249
TELEPHONE: (415) 398-3249
TELEPHONE: (415) 398-3249
TELEPHONE: (415) 398-3249
INFORMATION FOR SEG ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-691-794-2
Search completed: January 30, 2004, 11:47:52 Job time : 18.4513 secs
                                                                                                                                                                                  Query Match 86.9%; Score 206; DB 3; Length 191; Best Local Similarity 90.9%; Pred. No. 1.3e-16; Matches 40; Conservative 0; Mismatches 0; Indels
                                                                                                                          2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                       4.
                                                                                                                                                                                       Gaps
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                     Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Published Applications AA:*

1: /cgn2_6/prodata/2/pubpaa/US07 PUBCOMB.pep:*

2: /cgn2_6/prodata/2/pubpaa/US06 NEW PUB.pep:*

3: /cgn2_6/prodata/2/pubpaa/US06 NEW PUB.pep:*

4: /cgn2_6/prodata/2/pubpaa/US07 NEW PUB.pep:*

5: /cgn2_6/prodata/2/pubpaa/US07 NEW PUB.pep:*

6: /cgn2_6/prodata/2/pubpaa/US07 NEW PUB.pep:*

7: /cgn2_6/prodata/2/pubpaa/US08 NEW PUB.pep:*

9: /cgn2_6/prodata/2/pubpaa/US08 PUBCOMB.pep:*

9: /cgn2_6/prodata/2/pubpaa/US09 PUBCOMB.pep:*

10: /cgn2_6/prodata/2/pubpaa/US09 PUBCOMB.pep:*

11: /cgn2_6/prodata/2/pubpaa/US09 PUBCOMB.pep:*

12: /cgn2_6/prodata/2/pubpaa/US09 PUBCOMB.pep:*

13: /cgn2_6/prodata/2/pubpaa/US09 PUBCOMB.pep:*

14: /cgn2_6/prodata/2/pubpaa/US09 PUBCOMB.pep:*

15: /cgn2_6/prodata/2/pubpaa/US09 PUBCOMB.pep:*

16: /cgn2_6/prodata/2/pubpaa/US108 PUBCOMB.pep:*

16: /cgn2_6/prodata/2/pubpaa/US108 PUBCOMB.pep:*

17: /cgn2_6/prodata/2/pubpaa/US108 PUBCOMB.pep:*

18: /cgn2_6/prodata/2/pubpaa/US108 PUBCOMB.pep:*

19: /cgn2_6/prodata/2/pubpaa/US108 PUBCOMB.pep:*

10: /cgn2_6/prodata/2/pubpaa/US108 PUBCOMB.pep:*

11: /cgn2_6/prodata/2/pubpaa/US108 PUBCOMB.pep:*

12: /cgn2_6/prodata/2/pubpaa/US108 PUBCOMB.pep:*
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Match Length
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Gapop 10.0 , Gapext 0.5
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                      CERRKHLFVQTCKCSCKNTD.....RCKARQLENERTCRCDKPRR
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Copyright (c) 1993 - 2004
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12 US-10-318-302-2
12 US-10-318-302-1
15 US-10-318-302-1
15 US-10-200-050-3
10 US-09-813-398-8
12 US-09-921-143-7
15 US-10-177-485-4
15 US-10-15-492-4
9 US-09-349-954A-2
10 US-09-32-451A-2
0 US-09-932-451A-2
0 US-09-97-007-2
0 US-09-97-007-2
0 US-09-97-759-122
2 US-09-751-708A-122
2 US-09-751-708A-122
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             Sequence 2, Appli
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Sequence 7, Appli
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Sequence 122, Appli
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	Sequence 53, Appl	e 10,	e 7,	œ	e 5,	e 7,	equence 7,	Sequence 7, Appli	7	14	~	o T	ω	o u	O	2	equence 8	e 26, App	equence 8,	ю ,	Sequence 51, Appl	U	20	•	56	2		U	e 22	Sequence 17, Appl

ALIGNMENTS

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FILE REFERENCE: 10011-00001
; CURRENT APPLICATION NUMBER: US/10/318,302
; CURRENT FILING DATE: 2002-12-12
; NUMBER OF SEQ ID NOS: 5
; SOPTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 55
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-318-302-2
RESULT 2

US-10-318-302-1

; Sequence 1, Application US/10318302

; Publication No. US20030171556A1
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Best Local Similarity
Matches 40; Conservat
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Publication No. US20030171556A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: POSCO
APPLICANT: Chae, Chi-Bom
APPLICANT: Chae, Chi-Bom
APPLICANT: Gho, Yong Song
APPLICANT: Yang, Seung-Pil
APPLICANT: Kwon, Byung Oh
APPLICANT: Bae, Dong-Goo
APPLICANT: Bae, Dong-Goo
APPLICANT: Haeng, Sewook
TITLE OF INVENTION: BETA-AMYLOID BINDING FACTORS AND INHIBITORS THEREOF
                                                                                                                           12
                                                                                                                                               2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                           ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 55
                                                                                                                                                                                                           86.9%;
llarity 90.9%;
Conservative
                                                                                                                                                                                                           Score 206; DB 12;
Pred. No. 9.4e-17;
0; Mismatches 0;
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GENERAL INFORMATION:

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: BETA-AMYLOID BINDING FACTORS AND INHIBITORS THEREOF FILE REFERENCE: 10011-00001
CURRENT APPLICATION NUMBER: US/10/318,302
CURRENT FILING DATE: 2002-12-12
NUMBER OF FED. -
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SOFTWARE: PatentIn version 3.1
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ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                     INFORMATION FOR SEQ ID NO: 3:
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                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Vance, Dolly A.
REGISTRATION NUMBER: 39,054
REFERENCE/DOCKET NUMBER: A-
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Flehr, Hohbach, Test, Albritton & Herbert STREET: Four Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: VARIANTS OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR HAVING ALTERED PHARMACO
                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
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                  SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/802,052 FILING DATE: 14-FEB-1997
                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/10/200,050 FILING DATE: 19-Jul-2002 CLASSIFICATION: CUNKNOWN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Yang, Seung-Pil
Kwon, Byung Oh
Bae, Dong-Goo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STATE: California
                                                                            TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: United States
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: San Francisco
                                                           TELEX:
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Gho, Yong Song
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Deguzman, Geralyn G.
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90.9%;
amino acids
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Pred. No. 2.6e-16;
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                                                                                                                                     A-64069/WHD/DAV
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                                                                                                                                                       SOFTWARE: PatentIn version 3.0 SEQ ID NO 7
                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Coleman, Timothy
TITLE OP INVENTION: Vascular Endothelial Growth Factor-2
FILE REFERENCE: PF112P6
                                                                                                                                                                                                                                                                                                                                                                 Sequence 7, Application US/09921143
Publication No. US20030215921A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
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Matches
                   Best Local Similarity
                                   Query Match
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                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/09/921,143
CURRENT FILING DATE: 2001-08-03
PRIOR APPLICATION NUMBER: 60/223,276
PRIOR FILING DATE: 2000-08-04
NUMBER OF SEQ ID NOS: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR FILING DATE: 1998-09-22
NUMBER OF SEQ ID NOS: 41
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Bruce D. Weintraub
APPLICANT: Mariusz W. Szkudilnski
APPLICANT: University of Maryland
TITLE OF INVENTION: CYSTINE KNOT GROWTH FACTOR MUTANTS
FILE REFERENCE: UOFMD.003C1
CURRENT APPLICATION NUMBER: US/09/813,398
CURRENT FILING DATE: 2001-03-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: PCT/US99/05908 PRIOR FILING DATE: 1999-03-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: PCT/US98/19772
                                                                                             LENGIH: 190
TYPE: PRT
ORGANISM: homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: HOMO SAPIEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 190
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MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       147
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Conservative
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                   90.9%;
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90.9%;
 Score 206; DB 1:
Pred. No. 3e-16;
0; Mismatches
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Pred. No. 3e-16;
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Pred. No. 2.6e-16;
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                                     DB 12; Length 190;
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2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41

ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 190

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Bayne, Marvin L.
APPLICANT: Conn, Gregory L.
APPLICANT: Thomas, Jr., Kenneth A.
TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
TITLE OF INVENTION: II
                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/10/177,485
                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Leung, David Wai-Hung
TITLE OF INVENTION: Production of Vascular Endothelial Cell Growth Factor
TITLE OF INVENTION: and DNA Encoding Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 09/038,199
PRIOR FILING DATE: 1998-03-10
PRIOR APPLICATION NUMBER: 08/299,185
PRIOR FILING DATE: 1994-08-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: 09/326,879 PRIOR FILING DATE: 1999-06-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/10/071,370A CURRENT FILING DATE: 2002-02-08
                                                                                                                                                                                                                                                                                                                                                                                                          FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    equence 4, Application US/10177485 ablication No. US20030108989A1
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                                                                                                                                                                                                                                                                  FILING DATE: 1997-11-26
APPLICATION NUMBER: US 08/749,709
FILING DATE: 1996-11-15
                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US 08/979,105
FILING DATE: 1997-11-26
                                                                                                  APPLICATION NUMBER: US 07/772,399 FILING DATE: 1991-10-07
                                                                                                                                            APPLICATION NUMBER: US 08/062,489 FILING DATE: 1993-05-13
                                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                     APPLICATION NUMBER: US 08/460,370
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 07/586,638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 08/000,834 FILING DATE: 1993-01-05
                                                         APPLICATION NUMBER: US 07/369,424 FILING DATE: 1989-06-21
                                                                                                                                                                                      APPLICATION NUMBER: US 08/410,378 FILING DATE: 1995-03-27
                    APPLICATION NUMBER: US
FILING DATE: 1989-05-12
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NOS:
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; LENGTH: 190
; TYPE: PRT
; ORGANISM: Bovine
US-10-177-485-4
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SEQ ID NO 4
LENGTH: 190
                                                                                                                                                                                                                 Patent No. US20020019027A1
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Best Local Similarity
                                                                                                                                                                                                GENERAL
                                                                                                     APPLICANT:
APPLICANT:
                                                                                                                                                          APPLICANT:
           FILE REFERENCE: DAV. CO1. CAVE
CURRENT APPLICATION NUMBER: US/09/349,954A
CURRENT FILING DATE: 1999-07-08
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CURRENT APPLICATION NUMBER: US/10/155,492
CURRENT FILING DATE: 2002-05-24
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APPLICANT: Leung, David Wai-Hung
TITLE OF INVENTION: Production of Vascular Endothelial Cell Growth Factor
TITLE OF INVENTION: and DNA Encoding Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: US 08/901,544
PRIOR FILING DATE: 1997-07-28
PRIOR APPLICATION NUMBER: US 08/694,809
PRIOR FILING DATE: 1996-08-09
PRIOR APPLICATION NUMBER: US 08/410,378
PRIOR FILING DATE: 1995-03-27
                                                                  TITLE OF INVENTION: A NOT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR FILING DATE: 1989-06-21
PRIOR APPLICATION NUMBER: US 07/351,117
PRIOR APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity es 40; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US 07/772,399 FILING DATE: 1991-10-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US 07/369,424
                                                                                                                                                                                              INFORMATION:
                                                                                                                                                                                                                                                                                                                            147 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 190
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 147 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 190
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                                                                                                                                                                                                                                    Application US/09349954A
                                                                                                                                                                             Hayward, Nicholas K.
                                                                                                                                                        Weber, Gunther
                                                                                                     Larsson,
                                                                                                                      Grimmond, Sean
No. US20020019027Aldenskjold, Magnus
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                                                                                        A NOVEL GROWTH
                                                                                                         Catharina
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Pred. No. 3e-16;
D; Mismatches
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Pred. No. 3e-16;
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                                                                                        FACTOR
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                                                                                      AND A GENETIC SEQUENCE ENCODING
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PRIOR FILING DATE:

1996-02-22

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LENGTH: 191
TYPE: PRT
ORGANISM: Nucleotide Sequence of VEGF165
5-09-349-954A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
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Best Local Similarity
Matches 40; Conserv
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                                                                                                                                                                                                                                                                                          Sequence 2, Application US/09907007 Patent No. US20020142395A1
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Patent No. US20020111324A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: MAEDA, Yoshikazu
APPLICANT: SHIMADA, Kazuyuki
TITLE OF INVENTION: ADBNO-ASSOCIATED VIRUS-MEDIATED DELIVERY OF ANGIOGENIC
TITLE OF INVENTION: FACTORS
FILE REFERENCE: 0800-0026
FILE REFERENCE: 0800-0026
            CURRENT APPLICATION NUMBER: US/09/907,007
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: 08/765,588
PRIOR FILING DATE: 1996-02-22
NUMBER OF SEQ ID NOS: 22
                                                                                                         APPLICANT: Grimmond, Sean
APPLICANT: No. US20020142395Aldenøkjold, Magnus
APPLICANT: Larsson, Catharina
TITLE OF INVENTION: A NOVEL GROWTH FACTOR AND A GENETIC SEQUENCE
TITLE OF INVENTION: SAME
TITLE OF INVENTION: SAME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/932,451A
CURRENT FILING DATE: 2001-08-17
PRIOR APPLICATION NUMBER: 60/226,056
PRIOR FILING DATE: 2000-08-17
PRIOR FILING DATE: 2000-08-17
                                                                                                                                                                                                                                 APPLICANT: Hayward, Nicholas K. APPLICANT: Weber, Gunther
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SOFTWARE: PatentIn Ver. 2.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: OZAWA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 191
TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                148
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40;
PatentIn Ver. 2.1
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IKEDA, Uichi
MAEDA, Yoshikazu
                                                                                                                                                                                                                                                                                                                                                                                                                ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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Pred. No. 3
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Pred. No. 3e-16;
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US-09-870-759-122
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US-09-870-759-122
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US-09-795-006A-2
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; ORGANISM: Nucleotide Sequence of VEGF165
US-09-907-007-2
                                                        Query Match
Best Local S
Matches 40
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APPLICANT: Alitalo et al
APPLICANT: Alitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR PILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
PRIOR PILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
                                                                                                                                                                                                                                                                                                                                    Sequence 122, Application US/09870759
Patent No. US20020177551A1
GENERAL INFORMATION:
APPLICANT: TERMAN, David S
TITLE OF INVENTION: COMPOSITIONS AND METHODS
FILE REFERENCE: 870759
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LENGTH: 191
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LENGTH: 191
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Best Local Similarity
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NUMBER OF SEQ ID NOS: 166
SOFTWARE: Patentin version 3.1
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CURRENT FILING DATE: 2002-01-14
PRIOR APPLICATION NUMBER: US 60/208,128
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TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                        TYPE: PRT
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es 40; Conser
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2 ERRKHLFY---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
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Pred. No. 3e-16;
0; Mismatches
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Pred. No. 3e-16;
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Pred. No. 3e-16;
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Sequence 122, Application US/09751708A

Publication No. US20030157113A1

GENERAL INFORMATION:
APPLICANT: TERMAN, David S

TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT OF NEOPLASTIC DISEASE
FILE REFERENCE: 751708
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Search completed: January 30, 2004, 12:15:02 Job time : 41.7045 secs
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TYPE: PRT
ORGANISM: Homo sapien
US-10-392-931-6
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-751-708A-122
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                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 6
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CURRENT FILING DATE: 1999-09-09
PRIOR APPLICATION NUMBER: 60/099694
PRIOR FILING DATE: 1998-09-09
                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/126615
PRIOR FILING DATE: 1999-03-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: University of Washington
TITLE OF INVENTION: TREATMENT OF MICROVASCULAR ANGIOPATHIES
FILE REFERENCE: SCIOS.003A
                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Schreiner, George F. APPLICANT: Johnson, Richard J. APPLICANT: Scios, Inc.
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Perfect score:
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1: pir1:*
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Copyright (c) 1993 - 2004 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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ALIGNMENTS

vascular endothelial growth factor precursor (version 2) - bovine (;\$pecies: Bos prinigenius taurus (cattle) (;Date: 30-Un-1992 #sequence revision 30-Un-1992 #text_change 05-Nov-1999 (;Accession: B40080; B33787; Ā33255 R;Leung, D.W.; Cachianes, G; Kuang, W.J.; Goeddel, D.V.; Ferrara, N. Science 246, 136-1309, 1989 A;Title: Vascular endothelial growth factor is a secreted angiogenic mitogen. A;Reference number: A40080; MUID:90069608; PMID:2479986 A;Accession: B40080 A;Molecule type: mRNA A;Residues: 1-190 <leu> A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007 A;Gross-reference in GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007 A;Title: Vascular endothelial growth factor: a new member of the platelet-derived growth A;Reference number: A33787; MUID:90121225; PMID:2610687 A;Accession: B33787 A;Accession: B3787 A;Accession: B3787 A;Gross-references: GB:M31836; NID:g163808; PIDN:AAA30804.1; PID:g163809 A;Ferrara, N.; Henzel, W.J. Biochem. Biophys. Res. Commun. 161, 851-858, 1989 A;Title: Pituitary follicular cells secrete a novel heparin-binding growth factor specif A;Accession: A33255; MUID:89286596; PMID:2735925 A;Accession: A33255</leu>	RESULT 1 SS2130 vascular endothelial growth factor - pig C;Species: Sus scrofa domestica (domestic pig) C;Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999 C;Accession: S52130 R;Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D. Biochim. Biophys. Acta 1260, 235-238, 1995 A;Title: Nuclectide sequence and expression of the porcine vascular endothelial growth f. A;Reference number: S52130; MUID:95143284; PMID:7841203 A;Accession: S52130; MUID:95143284; PMID:7841203 A;Accession: S52130; MUID:95143284; PMID:7841203 A;Cross-references: GB:X81380; NID:9587559; PIDN:CAA57143.1; PID:9587560 A;Cross-references: GB:X81380; NID:9587559
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A;Residues: 27-31 <FEK>
A;Residues: 27-31 <FEK>
C;Keywords: alternative splicing; glycoprotein
C;Keywords: alternative splicing; glycoprotein
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-190/Product: vascular endothelial growth factor #status predicted
F;27-190/Product: carbohydrate (Asn) (covalent) #status predicted
                                                                                  Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
A;Title: Amino acid and cDNA sequences of a vascular en A;Reference number: A35987; MUID:90207249; PMID:2320579 A;Accession: A35987
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A;ACCEBSTON.
A;Molecule type: mRNA
A;Rolecule type: mRNA
A;Residues: 1-116, Er',119-190 <CLA>
A;Residues: 1-20, Er', 119-190 <CLA>
A;Residues: 1-20, Er', 119-190 <CLA>
A;Residues: 1-20, Er', 119-190 <CLA>
A;Ross references: GB.M95200; NID:g202350; PIDN:AAA40547.1;
A;Rote: sequence extracted from NCBI backbone (NCBIN:110665,
A;Note: sequence extracted from NCBI backbone (NCBIN:110665,
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C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
C;Accession: B44881; A43351; A61029
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A; Residues: 27-31
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C;Keywords: alternative splicing; angiogenesis; dimer; disulfide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R;Rosenthal, R.A.; Megyesi, Growth Factors 4, 53-59, 199 A;Title: Conditioned medium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Note: sequence extracted from NCBI backbone (NCBIN:107622, NCBIP:107623)
R;Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M.
J. Biol. Chem. 267, 16317-16322, 1992
A;Title: Vascular endothelial growth factor. Regulation by cell differentiation A;Reference number: A43351; MUID:92355593; PMID:1644816
A;Recession: A43351
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A;Cross-references: GB:S38083; NID:g249858; PIDN:AAB22253.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vascular endothelial growth factor-1 precursor - mouse
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                                                                   A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Experimental source: embryo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Accession: A61029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Reference number: A61029;
                                                                                                                                                                                                                                                                                                                               Species: Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;Molecule type:
;Molecule type: mRNA
;Residues: 1-190 <CO
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    86.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 90.9%;
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Pred. No. 7.9e-16;
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Pred. No. 7.9e-16;
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PMID:1592003
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                                                                                                                                                                                                                                                            P.W.; Sullivan, K.A.; Palisi, T.M.; Hope
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NCBIP: 110675)
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A; Residues:
C; Comment: H
C; Keywords:
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A;Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBIP:107625)
R;Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; Familletti, P.C.; Pan, Y.C.:
J. Exp. Med. 172, 1535-1545, 1990
A;Title: Vascular permeability factor: a tumor-derived polypeptide that induces endothell A;Reference number: A60932; MUID:91079755; PMID:2258694
A;Accession: A60932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NyContains: vascular endothelial growth factor-2; v
C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence revision 03-Feb-1994
C;Accession: A44881; C44881; A60932; S52136
R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.
                                                                                                                                                                                                                                                                                                                                                                          A;Molecule type: protein
A;Residues: 27-33 <CLA>
A;Residues: 27-33 <CLA>
R;Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa, R.
Biochim. Biophys. Acta 1224, 365-370, 1994
Biochim. Biophys. Acta 1224, 365-370, 1994
A;Title: Enhanced expression of multiple forms of VEGF is associated with
A;Reference number: S52136; MUID:95101726; PMID:7803491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Title: Expression of vascular endothelial growth factor A;Reference number: A44881; MUID:92274860; PMID:1592003 A;Accession: A44881
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                                                                                                                                                                      A;Residues: 1-214 <BRE>
A;Residues: 1-214 <BRE>
A;Cross-references: GB:S37052; NID:g249856; PIDN:AAB22252.1;
A;Experimental source: embryo
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N;Contains: vascular endothelial growth factor-2;
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                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary
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                                                                                                                                                                                                      Comment: Homodimers could be demonstrated for recombinant VEGF-2; Keywords: alternative splicing; angiogenesis; disulfide bond; gl; 1-26/Domain: signal sequence #status predicted <SIGS
                                                                                                                                                                                                                                                                                                                                                         Accession: S52136
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                        ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
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ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
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                                                                                                                                                                                                                                                                                                         protein
                                                                                              Conservative
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Pred. No. 7.
                                                                                                                    Score 206; DB 2;
Pred. No. 8.5e-16;
                                                                                                Mismatches
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vascular endothelial growth factor 206 precursor - human N,Alternate names: vascular permeability factor N;Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF C,Species: Homo sapiens (man) C,Date: 28-Aug-1992 #text change 05-Nov-1999 C,Date: 28-Aug-1992 #text change 05-Nov-1999 C,Accession: A41551; C41551; A40454; B40454; C40454; A40079; A40080; JR,Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W. Nol. Endocrinol. 5, 1806-1814, 1991

endothelial growth factor family: identification of

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fourth molecu

JQ1463;

189;

VEGF

RESULT 6 A41551

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A;ACCEBBAL...
A;Molecule type: protein
A;Residues: 27-36;43-49,'R';72-76,'Q',78-81;59-71
A;Residues: 7he most common of several alternative
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A;Molecule type: mRNA
A;Residues: 1-140,'N',183-232 <WEI>
A;Cross-references: EMBL;X62568; NID:937658; PIDN:CAA44447.1;
A;Cross-references: AIDS-Kaposi's sarcoma cell
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A;Molecule type: mRNA
A;Residues: 1-140,'N',183-232 <LEU>
A;Cross-references: GB:M32977; NID:g181970; PIDN:AAA35789.1; PID:g181971
R;Weindel, K.; Marme, D.; Weich, H.A.
Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
A;Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial
A;Reference number: JQ1463; MUID:92231879; PMID:1567395
A;Accession: JQ1463; MUID:92231879; PMID:1567395
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A;Molecule type: DNA
A;Residues: 1-141,227-232 <TI3>
A;Residues: 1-141,227-232 <TI3>
A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63978
A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63978
A;Constant Company
Science 246, 1309-1312, 1989
Science 246
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A;Residues: 1-141,227-22 <HOU>
R;Tischer, E.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C.; P.
J. Biol. Chem. 266, 11947-11954, 1991
A;Title: The human gene for vascular endothelial growth factor. Multiple protein forms
A;Reference number: A40454; MUID:91268072; PMID:1711045
A;Accession: A40454
                                                                                                                                                                                                                                                                                                                                  A;Residues: 1140,'N',227-232 <WE2>
A;Reportmental source: ALSaposi's sarcoma cell
R;Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson,
J. Biol. Chem. 264, 20017-20024, 1989
A;Title: Human vascular permeability factor. Isolation if A;Reference number: A34492; MUID:90062112; PMID:2584205
A;Accession: A34492
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A;Title: Vascular endothelial growth factor is a secreted angiogenic mitogen. A;Reference number: A40080; MUID:90069608; PMID:2479986
A;Accession: A40080
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A;Residues: 1-140,'N',183-232 <TI2>
A;Cross-references: GB:M63971; GB:M63972; GB:M63973;
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A; Residues: 1-165,183-232 <TI1>
A; Cross-references: GB: M63971;
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A; Residues: 1-232 < HOUI>
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A;Cross-references: GDB:132244; OMIM:192240
A;Map position: 6p21-6p12
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A;Description: promotes fluid and protein leakage from blood vessels C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular pro F;1-23/Product: vascular endothelial growth factor 206 precursor #status predicted <V20 F;1-165,183-232/Product: vascular endothelial growth factor 189 precursor #status predic F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status predic F;1-26/Domain: signal sequence #status predicted <SIG> F;101/Binding site: carbohydrate (Asn) (covalent) #status predicted
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A;Introns: 137/2
A;Introns: 137/2
F;12-1/Domain: signal sequence #status predicted <SIG>
F;22-188/Product: vascular endothelial growth factor-related factor
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A,Title: Characterization of the murine VEGF-related factor gene.
A,Reference number: JC4879; MUID:96183052; PMID:8607868
A,Recession: JC4680
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vascular endothelial growth factor C precursor - N;Alternate names: FLT4 ligand DHM
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A; Residues: 1-188 < TOW >
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Pred. No. 9e-1
0; Mismatches
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A;Cross-references: EMBL:X94216; NID:g1177488; PIDN:CAA63907.1; PID:e221096; PID:g118200 A;Note: the nucleotide sequence was submitted to the EMBL Data Library, December 1995 A;Note: only a part of the translation is shown A;Note: this is a revision to the sequence from reference S61795 R;Joukov, V.; Pajusola, K.; Kaipainen, A.; Chilov, D.; Lahtinen, I.; Kukk, E.; Saksela, EMBO U. 15, 290-298, 1996 PA;Title: A novel vascular endothelial growth factor, VEGF-C, is a ligand for the F1t4 (V A;Reference number: S61795; MUID:96178224; PMID:8617204

A; Molecule type: mRNA A; Residues: 1-419 < JOU>

A; Reference number: S69207; A; Accession: S69207

A;Status: nucleic acid sequence not shown

A; Title: Corrigendum: A novel vascular endothelial growth A; Reference number: S69207; MUID:96203094; PMID:8612600

factor,

VEGF-C,

is a ligand

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Saksela,

C;Species: Homo sapiens (man)
C;Date: 27-Apr-1996 #sequence revision 01-Nov-1996 #text_change 08-Oct-1999
C;Accession: S69207; \$61795; \$71443; \$69208; G02659
R;Joukov, V.; Pajusola, K.; Kaipainen, A.; Chilov, D.; Lahtinen, I.; Kukk, E.; EMBO J. 15, 1751, 1996

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185K secretory prote
N;Alternate names: k
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A; Residues: 'X',104-120 < JOU2>
R; Lee, J.; Gray, A.; Yuan, J.; Luoh, S.M.; Avraham, H.; Wood, W.I.
submitted to the EMBL Data Library, December 1995
A; Description: Vascular endothelial growth factor related protein (VRP): A ligand
A; Reference number: S69208
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A;Title: The balbiani ring 3 gene in Chironomus tentans has a diverged repetitive
A;Reference number: S08167; MUID:90172404; PMID:1689777
A;Accession: S08167
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R;Paulsson, G.; Lendahl, U.; Galli, J.; Ericsson, C.; Wieslander,
J. Mol. Biol. 211, 331-349, 1990
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A;Molecule type: mRNA
A;Residues: 1-419 <MOR>
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submitted to the EMBL Data
A;Reference number: H01557
A;Accession: G02659
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A; Residues: 70-419 <JOU1>
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A;Residues: 1-1700
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A;Accession: S71443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Gene: GDB: VEGFC; VRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Molecule type: mRNA
A;Residues: 1-419 <LEE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status: not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: EMBL:U58111; NID:g1373426; PIDN:AAB02909.1; PID:g1373427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Accession: S69208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;1-12/Domain: signal sequence #status predicted <SIG>
;13-102/Domain: propeptide #status predicted <PRO>
;103-419/Product: vascular endothelial growth factor C #status experimental
                                                                                                                                                                                                                                                                                                                                           Superfamily: unassigned Balbiani ring proteins
                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                      Genetics:
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                                                                                                                                                                                                                                                     Matches
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                                                                                                                                                                                                  1 CERRKHLFVQTCKCSCKNTDSRCKARQLENERTCRCDKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGPHKELDRNSCQCVCKNKLFPSQCGANREFDENTCQC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CERRKHLFVQTCKCSCKNT--DSRCKARQLENERTCRC 36
  protein - midge (Chironomus tentans)
nes: balbiani ring 3 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <PAU>
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                                                                                                                                                     SCACVCPNAD-KCTAPQVWNKDTCCCGCP
                                                                                                                                                                                                                                                                      30.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Library,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 not shown; not compared with conceptual translation
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Pred. No. 0.48;
                                                                                                                                                                                                                                                                      Score 71; DB 2; Length 1700; Pred. No. 2.7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     May 1996
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                                                                                                                                                                                                                                                  11; Indels
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                           (fragment)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             struct
                                                                      vascular endothelial growth factor (version 1) - bovine C;Species: Bos primigenius taurus (cattle) C;Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999 C;Accession: A33787
                                                                                                                                                                                                                                                                         밁
R;Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A;Title: Vascular endothelial growth factor: a new member of the platelet-deri
                                                                                                                                                                           A33787
                                                                                                                                                                                                  RESULT 12
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R;Dignam, S.S.; Case, S.T. Gene 88, 133-140, 1990
A;Title: Balbiani ring 3 in A;Reference number: JQ0542;
A;Accession: JQ0542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     J. Biol. Chem. 269, 25295-25302, 1994
A;Title: CRS5 encodes a metallothionein-like protein in A;Reference number: A55011; MUID:95014318; PMID:7929222
A;Accession: A55011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Date: 11-Nov-1994 #sequence_revision 11-Nov-1994 #text_change 19-Apr-2002 C;Accession: A55011; S66897 R;Culotta, V.C.; Howard, W.R.; Liu, X.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 17-Mar-2000 C;Accession: JQ0542
                                                                                                                                                                     A; Description: involved
                                                                                                                                                                                                                                                             A; Cross-references:
                                                                                                                                                                                                                                                                                 A; Gene: SGD: CRS5; CRS5
                                                                                                                                                                                                                                                                                                                            A; Experimental source: strain S288C A; Note: in strain S288C YOR031w is
                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: DNA
A; Residues: 1-8 < DEH>
                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Reference number: S66877
A; Accession: S66897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: GB:L29056; NID:g499891; PIDN:AAA66061.1; PID:g499892 R;de Haan, M.; Grivell, L.A.; Maarse, A.C. submitted to the Protein Sequence Database, July 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: DNA
A; Residues: 1-69 < CUL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N;Alternate names: protein 02675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        metallothionein-like protein YOR031w -
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A;Experimental source: salivary gland
C;Superfamily: unassigned Balbiani ring proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: mRNA
A; Residues: 1-160 < DIG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C; Species: Chironomus tentans
                                                                                                                                                                                                                                      A; Map position:
                                                                                                                                                                                              Function:
                                                                                                                                                                                                                                                                                                                                                                     Cross-references: EMBL: Z74939; MIPS: YOR031w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Species: Saccharomyces cerevisiae
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31
                           10 QTCKC-----SCKNTDSRCKARQLENERTCRCDKPR
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                                                                                                          Similarity
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EKCKCDHSTGSPQCKSCGEKCKC----ETTCTCEKSK 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VQTCKCSCKNTDSRCKARQLENERTCRCDKP 39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                   Conservative
                                                                                                                                                                                                                                                               SGD:S0005557
                                                                                                                                                                         in copper homeostasis and detoxification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29.5%;
35.5%;
                                                                                                        25.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chironomus tentans encodes a 185-kDa secretory protein which MUID:90269600; PMID:2189782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 70; DB 2;
Pred. No. 0.68;
                                                                                                          Score 61; DB 2;
Pred. No. 3.8;
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                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                            pseudogene
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                                                                                                                            Length 69;
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                                                                                     Indels
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                                                                                     12;
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                                                                                        Gaps
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new member of the platelet-derived

K.; Crisp growth

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RESULT 14
A35281
N;Alternate names: sperm-specific membrane protein
C;Species: Mus musculus (house mouse)
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03-Dec-1999
                                                                                     RESULT 15
T42215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; submitted to the EMBL Data Library, July 1995 A;Reference number: S57956 A;Accession: S57956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ovine vascular endothelial growth factor - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text_change 05-Nov-1999
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A;Accession: A33787
A;Status: preliminary
A;Molecule type: mRNA
A;Restidues: 1-120 <TIS>
A;Restidues: 1-120 <TIS>
A;Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
C;Keywords: alternative splicing
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                                                                                                                                                                                                                                                                                                                                    A;Cross-references: GB:J02910; NID:g214145; PIDN:AAA49711.1; PID:g214146 C;Superfamily: pig submaxillary mucin
                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Title: An integumentary mucin (FIM-B.1) from Xenopus laevis homologous with von Willeb A;Reference number: A35281; MUID:91002513; PMID:2207068
A;Accession: A35281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              integumentary mucin B.1 - African clawed frog (fragment).
C;Species: Xenopus laevis (African clawed frog)
C;Date: 17-Aug-1990 #sequence_revision 06-Nov-1992 #text_change 03-Nov-2000
C;Accession: A35281
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                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
A; Residues: 1-398 < PRO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: EMBL:X89506; NID:g899350; PIDN:CAA61677.1; PID:g899351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: mRNA
A; Residues: 1-146 < RED>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C; Accession: S57956
                                                                  zonadhesin - mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Biochemistry 29, 6240-6244, 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R; Probst, J.C.; Gertzen, E.M.; Hoffmann, W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Status: preliminary
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15; Conserv
                                                                                                                                                                       HMWQTGCDVCTCNGTSGKTQCAPRQCEKEIICKSDERR 220
                                                                                                                                                                                                              HLFVQTCK-CSCKNTD--SRCKARQLENERTCRCDKPR 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FLOHNKCECR -- PKKDKAROE -- -- KCDKPRR 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FVQTCKCSCKNTDSRCKARQLENERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FLOHNKCECR--PKKDKAROE----KCDKPRR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FVQTCKCSCKNTDSRCKARQLENERTCRCDKPRR 41
                                                                                                                                                                                                                                                         Conservative
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Pred. No. 6.3;
4; Mismatches
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Pred. No.
                                                                                                                                                                                                                                                                          Score 60.5;
Pred. No. 14;
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                                                                                                                                                                                                                                                                                           2; Length 398;
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R;Gao, Z.; Garbers, D.L.
J. Biol. Chem. 273, 3415-3421, 1998
A;Title: Species diversity in the structure of zonadhesin, a sperm-specific membrane pro A;Reference number: Z22080; MUID:98123114; PMID:9452463
A;Accession: T42215
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                                                                                                                                                                C; Keywords: cell adhesion
                                                                                                                                                                                   A;Description: functions in multiple cell adhesion processes A;Note: found exclusively on the apical region of the sperm head
                                                                                                                                                                                                                            C; Function:
                                                                                                                                                                                                                                               A; Map position: 5
                                                                                                                                                                                                                                                                       A;Gene: Zan
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                                                                                                                                                                                                                                                                                                                                                                     A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: mRNA
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                                                                                                                     Query Match
                                                                                                Match 25.3%;
Local Similarity 44.0%;
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                                      11 TCKCSCKNTDSRCKARQLENERTCR 35
TCLPSCSNPDGRCEGTSHKAPSTCR 4780
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Search completed: January 30, 2004, 11:46:16
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Name=Alpha;
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Name=Beta;
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IsoId=P15691-2; Sequence=VSP_VEGF FAMILY OF GROWTH FACTORS.

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		H FIGE (BY SIMITA CELLULAR LOCATION	: Homod	/Flt-1 a	eration,)N: Growth	ophys.	follicu	186596; PubMe Henzel W.J.	[3] SEQUENCE OF 27-31.	ophys.	ndothel	Gospod	MEDLINE=90121225; I	27-190	:1306-1	"Vascular endothelial	Leung D.W., Cachianes	0069608;		••	a	Metazoa	FA.	y facto	dotheli	01-APR-1990 (Rel. 14,	(Rel.	STA				•		•		22.4 22.4	•	22.6 22.6	
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splicing; Na		WILH FIGE (by SIMILELLY). SUBCELLULAR LOCATION: Secreted but to the extracellular matrix unless	disulfide-linked.	VEGFR1/Flt-1 and VEGFR2/Kdr receptors	s cell n	or active	mun. 161	cary follicular cells secrete a novel hepa	2735925;		<pre>derived growth factor gene family."; Biochem. Biophys. Res. Commun. 165:1</pre>	th factor:	J.C. Abi	610687;			th factor	Kuang W.	••			Cetartiodactyla;	ıta; Cran		-	h factor		rted)	PRT,		AL.	LHX		AD1		PDGB	PDGB-	SL17	STC D	
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28-FBB-2003 (Rel. 41, Last sequence update)
28-FBB-2003 (Rel. 41, Last sequence update)
Vascular endothelial growth factor A precursor permeability factor) (VPF).
                                             Miura N., Misumi K., Kawahara K., Nakashima M., Fukumitsu S.,
Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.;
"Cloning of cDNA and high-level expression of equine vascular
endotherial growth factor (VEGF).";
Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
-i-FUNCTION: Growth factor active in angiogenesis, and endothelial
cell growth. Induces endothelial proliferation and vascular
permeability (By similarity).
-i-SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
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                                                                                                                                                      SEQUENCE FROM N.A.
Miura N., Misumi K.,
                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
                                                                                                                                                                                                                                      Equus caballus (Horse)
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SMART; SM00141; PDGF; 1.
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Pfam; PF00341; PDGF; 1.
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EMBL; M31836; AAA30804.1; -.
EMBL; M33750; AAA30805.1; -.
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         with PlGF (By similarity).
SUBCELLULAR LOCATION: Secreted but
to the extracellular matrix unless
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PS50278; PDGF_2; 1.
Angiogenesis; Growth factor;
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Pred. No. 1e-17;
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splicing; Multigene family.
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INTERCHAIN (BY SIMILARITY)
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/FTId=VSP_004613.
R -> K (in isoform Beta).
/FTId=VSP_004614.
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         remains associated to cells released by heparin (By
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Q99PS1;
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CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                                             Mesocricetus auratus (Golden hamster).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                          28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
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PROSITE; PS50278; PDGF_2; 1.
Mitogen; Angiogenesis; Growth
                                                                                                                                                                              MEDLINE=99311285; PubMed=10382276;
Yi X.J., Jiang H.Y., Lee K.K., Tang P.L., C
"Expression of vascular endothelial growth
receptors during embryonic implantation in
                                                                                                                                                                                                                                                                                   Mesocricetus.
NCBI_TaxID=10036;
                                                                                                                                                                                                                                                                                                                                                               VEGF OR VEGFA.
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HSSP; P15692; 1V
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                                                                                                                                                   (Mesocricetus auratus).";
Cell Tissue Res. 296:339-349(1999).
                                                                                                                                                                                                                                           TISSUE=Decidua, and Embryo;
                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                        FUNCTION: Growth factor active in angiogenesis, vasculogenesis endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
                 with PIGF (By similarity).
SUBCELLULAR LOCATION: Secreted but
                                              heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              147
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
LULAR LOCATION: Secreted but remains associated to cells extracellular matrix unless released by heparin (By
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190
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VASCULAR ENDOTHELIAL G
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BY SIMILARITY.
BY SIMILARITY.
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Pred. No. 1e-17;
0; Mismatches
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, 87E9E161439E5F87 CRC64;
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INTERCHAIN (BY SIMILARITY)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
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                                                                                                                                                                                                             Chow P.H.
                                                                                                                                                                              factor (VEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1; Length 190;
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                                            found as heterodimer
                                                                                                                                                                                                                                                                                                                                                                                            (VEGF-A) (Vascular
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Matches 40
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                                                                                                                                                                                                                                                                                                                                                                                                                                             P49151; Q9GL52;
01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits appropriate, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
                                                                                                                                                                                                                         Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D., "Nucleotide sequence and expression of the porcin endothelial growth factor.";
                                                                                                                                                                                                                                                                                                                                                                          Sus scrofa (Pig).
Eukaryota, Metazoa,
Mammalia, Eutheria,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR000072; PD_growth_factor. Pfam; PP00341; PDGF; 1. ProDom; PD001629; PD growth_factor; 1. SMART; SM00141; PDGF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for con
                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Heparin-binding; Multigene SIGNAL 1 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                           SEQUENCE FROM N.A.

Lee T., Canty J.M.;

"PCR cloning of porcine cardiac vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CARBOHYD
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                                                                                                                                                                                                         Biochim.
                                                                                                                                                                                                                                                                                  MEDLINE=95143284; PubMed=7841203;
                                                                                                                                                                                                                                                                                                       ISSUE=Heart;
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PS50278; PDGF_2; 1.
Angiogenesis; Growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the Swiss Institute of Bioinformatics
                                                                                                                                                                                                       Biophys. Acta 1260:235-238(1995).
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                                                                                                                                                                                                                                                            Gho B.C.H.,
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BY SIMILARITY.
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No. le-17;
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                                                                                                                                                                                                                                             porcine vascular
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CONFLICT
                                                                                                                                                                               VBGA CANFA STANDARD; PRT; 214 AA. OPMYVJ; Q9XSF3; Q9XSF4; Q9XSF5; 28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor permeability factor) (VPF).
                                                                  Scheidegger P., W. Ballmer-Hofer K.,
                                                                                                                                     Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                               Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mitogen; Angiogenesis; Grow
Heparin-binding; Multigene
SIGNAL 1 26
TISSUE=Heart;
         SEQUENCE FROM
                                 Biol.
                                           bearing
                                                                                         MEDLINE=20125516;
                                                                                                   SEQUENCE FROM N.A.
                                                                                                                        NCBI_TaxID=9615;
                                                                                                                                                                        VEGF OR VEGFA
                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Angiogenesis; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProDom; PD001629; PD growth factor; SMART; SM00141; PDGF; 1.
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or send an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the European Bioinformatics Institute. Thuse by non-profit institutions as long
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation
                                          "Vascular endothelial pearing dogs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF00341; PDGF;
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                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linke
with PIGF (By similarity).
SUBCELLULAR LOCATION: Secreted but
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      similarity).
SIMILARITY: BELONGS
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                                 Chem.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            requires a license agreement (See http://www.isb-sib.ch/announce/
an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and this statement is not removed.
                                                                                                                                                                                                                                                                                                               ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
                                                                                                                                     Eutheria; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                          190
                                 380:1449-1454(1999).
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          N.A.
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                                                                             Weiglhofer W.,
                                                                                     (ISOFORM VEGF-188).
PubMed=10661874;
                                                                Jaussi R.;
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          (ISOFORMS VEGF-188;
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INTERCHAIN (BY SIMILARITY).
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0; Mismatches
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                                                       factor
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T -> A (IN REF. 2)
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                                                                                                                                     Fissipedia;
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            VEGF-182
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            AND VEGF-164)
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EMBL; AF133250; AAD29684.1; -.
EMBL; AF133249; AAD29683.1; -.
EMBL; AF133244; AAD29682.1; -.
EMBL; AF133246; AAD29682.1; -.
HSSP; P15692; 1VGH.
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                                                                                                                                                                                                                                      VARSPLIC
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Pfam; PF00341; PDGF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                           CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gjing L., Roque R.S.;
mitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.
FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PIGF (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IsoId=Q9MYV3-3; Sequence=VSP 004615, VSP 004616; SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Name=VEGF-164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Name=VEGF-188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Event=Alternative splicing; Named isoforms=3; Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ALTERNATIVE PRODUCTS:
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171
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IsoId=Q9MYV3-1; Sequence=Displayed;
                                                                 40;
                                 N
                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                         PS00249; PDGF_1; 1.
PS50278; PDGF_2; 1.
Angiogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     non-profit institutions as long as and this statement is not removed. I requires a license agreement (See htt
ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 214
                     ERRKHLFV----QTCKCSCKNTDSRCKARQLB-NERTCRCDKPRR 41
                                                                                                                                   214 AA;
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51
82
86
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                                                                                                                                                                                                                                                                                                                                                                                           VASCULAR ENDOTHELIAL GROWTH FACTOR
                                                                                                                                                                                    /FTId=VSP
                                                                                                                                                                                                                      FTId=VSP
                                                                                                                                                                                                                                      /FTId=VSP_004615.
Missing (in isofo
                                                                                                                                   0AC980A158C44B27 CRC64;
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                                                                                                                                                                                                                                                                                                                                                         SIMILARITY.
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                                                                                                                                                                                                                                                                      N (in isoform VEGF-164).
                                                                                                                                                   VSP 004617.
(IN REF. 2
(IN REF. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     noved. Usage by and for commercia. (See http://www.isb-sib.ch/announce,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               remains associated to cells released by heparin (By
                                                                                                                                                                                                                      004616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     There are no restrictions
                                                                                 DB 1;
                                                                                                                                                                                                                                      isoform VEGF-164).
                                                                                                                                                                                                                                                                                                                        SIMILARITY).
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                                                                 0
                                                                                             Length 214;
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                                                                                                                                                                                                      VEGF-182)
                                                                 Indels
                                                                                                                                                                                                                                                                                        (POTENTIAL).
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RESULT

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Q00731;
Q1-APR-1993 (Rel. 25,
Q1-OCT-1996 (Rel. 34,
15-SEP-2003 (Rel. 42,
Vascular endothelial;
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EMBL; S37052;
EMBL; S38083;
                                                                                                                                                                                                                    -!- TISSUE SPECIFICITY: In developing embryos, expressed mainly in the choroid plexus, paraventricular neuroepithelium, placenta and kidney glomeruli. Also found in bronchial epithelium, adrenal gland and in seminiferous tubules of testis. High expression of vegor continues in kidney glomeruli and choroid plexus in adults.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=96216498; PubMed=8632007;
Shima D.T., Kuroki M., Deutech U., Ng Y., Adamis A.P., D'Amore l
"The mouse gene for vascular endothelial growth factor. Genomic
structure, definition of the transcriptional unit, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claffey K.P., Wilkison W.O., Spiegelman B.M.;
"Vascular endothelial growth factor. Regulation
differentiation and activated second messenger
J. Biol. Chem. 267:16317-16322(1992).
                                                                              modified and this statement
                                                                                             the European Bioinformatics Institute. Th
                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   regulatory sequences.";
J. Biol. Chem. 271:3877-3883(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 characterization of transcriptional and post-transcriptional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Expression of vascular endothelial angiogenesis and endothelial cell d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Breier G., Albrecht U.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus (Mouse)
                                                or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 1-3 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=92355593;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Development 114:521-532(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=92274860;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       permeability factor)
                                                                                                                                                                                                                                                                                                                               Event-Alternative splicing; Named isoforms=3;
Name=VEGP-3; Synonyms=VEGP188;
IsoId-000731-1; Sequence=Displayed;
Name=VEGF-1; Synonyms=VEGF164;
IsoId-000731-2; Sequence=VSP-004626, VSP_004627;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibite apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
                                                                                                                                                                            retention signal.
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                   with PIGF (By similarity).
SUBCELLULAR LOCATION: VEGF-1 and VEGF-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also
                                                                                                                                                                                                          DOMAIN: VEGF-3 contains a basic insert which acts
                                                                                                                                                                                                                                                                                                        Name=VEGF-2; Synonyms=VEGF120;
IsoId=Q00731-3; Sequence=VSP_004628;
                                                                                                                                                                                                                                                                                                                                                                                                                     remains cell-surface associated unless ALTERNATIVE PRODUCTS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chem.
                AAB22252.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       34, Last sequence update)
42, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PubMed=1644816;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (ISOFORM VEGF-1).
                                                             license agreement (See http://www.isb-sib.ch/announce,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         growth factor A precursor (VPF).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sterrer S., Risau
                                                                              is not removed.
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Sciurognathi; Muridae;
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differentiation.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Regulation by
                                                                                          There are no restrictions ing as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Σ:
                                                                                                                                                                                                                                                                                                                                                                                                                                         released
                                                                                                                                                                                                                                                                                                                                                                                                                                                      are secreted while VEGF-3
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                                                                              Usage
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; Murinae; Mus
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RESULT 7
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Best Local (
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EMBL; M95200; AAA40547
EMBL; M1383; -; NOT_A
PIR; A44881; A44881.
PIR; B44881; B44881.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CONFLICT
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P16612; Q9JKX7; Q9QXG6; Q9QXG7;
01-AUG-1990 (Rel. 15, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
                                               "Developmental expression of vascular endothelial (VEGF-A) splicing variants, VEGF-A188, VEGF-A164, massele.";
                                                                                                                                                                                                   Conn G., Bayne M.L., Soderman D.D., Kwok P.W., Sullivan K.A., Palisi T.M., Hope D.A., Thomas K.A.; Palisi T.M., Hope D.A., Thomas K.A.; "Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is homologous to platelet-derived growth factor."; Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Heparin-binding; Alternative SIGNAL 1 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProDom; PD001629; PD_growth_factor;
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MGD; MGI:103178; Vegfa.
InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
SEQUENCE OF 27-40
                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VARSPLIC
                                      Submitted
                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. (ISOFORM VEGF-A164), MEDLINE=90207249; PubMed=2320579;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VEGA_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE;
                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE;
                                                                                                                                           /EGF-A120)
                                                                                                                                                                                                                                                                                                                                                                                                                                                       EGF OR VEGFA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P15692; 2VPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       40;
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PS00249; PDGF 1; 1.
PS50278; PDGF-2; 1.
Angiogenesis; Growth factor; Glycoprotein; Signal; Angiogenesis; Growth factor; Wiltigene family.
BY SIMILARITY.
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BY SIMILARITY.
CROWTH F/
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                                      (DEC-1999)
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214 AA;
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AAA40547.1; -.
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25283 MW;
                                                                                                                                                            (ISOFORMS VEGF-A188; VEGF-A164; VEGF-A144
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Pred. No. 1.2e-17;
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Missing (In isoform VEGF-2)
/FTId=VSP 004628.
GE -> ER (IN REF. 2).
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K -> N (in isoform VEGF-1).
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INTERCHAIN (BY SIMILARITY).
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Missing (in isofo
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Sciurognathi;
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thi; Muridae; Murinae; Rat
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-i- FUNCTION: Growth factor active in angiogenesis, vasculogenesis a endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFRI/Fit-1 are receptors and to heparan sulfate and
                                                                                                                                                                                                      PROSITE; PS00249; PDGF_1; 1.

PROSITE; PS50278; PDGF_2; 1.

Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal; Heparin-binding; Alternative splicing; Multigene family.

SIGNAL 1 26
                                                                                                                                                                                                                                                                                                                                                                                                                                           entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                        EMBL; M32167; AAA41211.1; ---
EMBL; AF215725; AAF19211.1; ---
EMBL; AF215726; AAF19212.1; ---
EMBL; AF222779; AAF25958.1; ---
HSSP; P15692; 1VPP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatic and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                         InterPro; IPR000072; PD_growth_factor.
Pfam; PP00341; PDGF; 1.
ProDom; PD0001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IBOId=P16612-4; Sequence=VSP 004631;
-i-TISSUB SPECIFICITY: Expressed in the pituitary, in brain, in particularly in supraoptic and paraventricular nuclei and the choroid plexus. Also found abundantly in the corpus luteum of ovary and in kidney glomeruli.
-i- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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                                 VARSPLIC
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                                                                   VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VEGF-A164 is more basic, has heparin-binding properties and, although a signicant proportion remains cell-associated, most is freely secreted. VEGF-A188 is very basic; it is cell-associated after secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a soluble form by heparin, heparinase or plasmin (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PIGF (By similarity).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Name=VEGF-A144;
IsoId=P16612-3; Sequence=VSP_004632;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=VEGF-A164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Name=VEGF-A188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      form by heparin, heparinase or plasmin (By sin ALTERNATIVE PRODUCTS:
Event=Alternative splicing; Named isoforms=4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IsoId=P16612-2; Sequence=VSP_004629,
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Missing (In isoform VEGF-A164)
/FTId=VSP_004630.
Missing (In isoform VEGF-A120)
                                                                 N-LINKED (GLCNAC.
K -> N (in isofor
                                                                                                                                  VASCULAR ENDOTHELIAL GROWTH FACTOR A. BY SIMILARITY.
BY SIMILARITY.
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                                                   /FTId=VSP_004629.
                                                                   isoform VEGF-A164).
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Best Local S
Matches 40
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                                                                                                                                                                                                                                                                                                                                                                                                 MEDILINE=90069608; PubMed=2479986; Leung D.W., Cachianes G., Kuang W.-J., "Vascular endothelial growth factor is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-APR-1990 (Rel. 14, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPF).
Poltorak Z., Cohen
Keshet E., Neufeld
                                                             Weindel K., Marme D., Weich H.A.; "AIDS-associated Kaposi's sarcome endothelial growth factor.";
                                                                                                                                      fourth molecular of RNA.";
                                                                                                                                             Houck K.A., Ferrara N., winer J., Cachianes G., "The vascular endothelial growth factor family: fourth molecular species and characterization o
                                                                                                                                                                                                                                                   MEDLINE=91268072; PubMed=1711045;
Tischer E., Mitchell R., Hartman T., Silva M.,
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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P15692; 060720;
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                   MEDLINE=97207275; PubMed=9054410;
                             SEQUENCE FROM N.A.
                                                                                           MEDLINE=92231879;
                                                                                                    SEQUENCE FROM N.A. (ISOFORM VEGF165).
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                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                  "Vascular permeability factor,
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                                                                                                                                                                                                             forms are encoded through alternative . Chem. 266:11947-11954(1991).
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                                                                                                                                                                                                                                .C., Abraham J.A.;
an gene for vascular endothelial growth
                                                  Biophys.
                                                                                                                                                                                        FROM N.A.
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| xon splicing.";
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Abrams K.R., Lee S.W., Detmar M., "Identification of a human VPF/VEGF 3' hypoxia-induced mRNA stability."; Mol. Biol. Cell 9:469-481/10001
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"Human Muller cells express VEGF183,
vascular endothelial growth factor.";
MEDIANNE PROPERTY NAME OF THE 
                                                                                                                                                                                                                                                                                                          SEQUENCE OF 23-232 FROM N.A. (VEGF165). Rieder M.J., Armel T.Z., Carrington D.A.; Poel C.L., Toth E.J., Yi Q., Nickerson D.A.; Submitted (OCT-2001) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and receptor mRNA expression in identification of VEGF148 mRNA, Clin. Sci. 97:303-312(1999).
                                                                          MEDLINE=93145946;
Fiebich B.L., Jaes
                                                                                                                                                         Connolly D.T., Olander J.V., Heuvelman D., Nelson R. Siegel N., Haymore B.L., Leimgruber R., Feder J.; "Human vascular permeability factor. Isolation from J. Biol. Chem. 264:20017-20024(1989).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (DEC-1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sato J.D., Whitney R.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Heterogeneous vascular endothelial growth and receptor mRNA expression in human glome identification of VEGF148 mRNA, a novel tru
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Renal glomerulus;
MEDLINE=99394945; PubMed=10464055;
Whittle C.J., Gillespie K.M., Harr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (DEC-1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Hemangioendothelioma;
Murata H., Fukushima J., Hattori
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biochim.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                  SEQUENCE OF 27-41.
                                                                                                                                                                                                                                               MEDLINE=90062112;
                                                                                                                                                                                                                                                                   PRELIMINARY SEQUENCE OF 27-36;
                                                                                                                                                                                                                                                                                                                                                                                                                                          Williams
                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Human cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Harper S.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VEGF165."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Human cDNA for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=99165303;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE=Retina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE=Breast;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lei J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=99096474;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "VEGF145, a secreted vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ophthalmol. Vis. Sci. 40:752-759(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ication and characterization of a new splicing variant endothelial growth factor: VEGF183."; Biophys. Acta 1443:400-406(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chem.
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                                                                                                                                                                                                                                                                                                                                                                                                                      (DEC-2000)
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                                                                                              PubMed=7678805;
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insect
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h factor
               human vascular cells.";
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X-RAY CRYSTALLOGRAPHY (2)

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ANGSTROMS)

OF 34-135

J. Biochem.

211:19-26(1993).

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<del>:</del>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Solution structure of the heparin-binding domain of vascular endothelial growth factor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fairbrother W.J.,
Starovasnik M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRUCTURE BY NMR OF 137-215. MEDLINE=98298440; PubMed=9634701;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRUCTURE BY NMR OF 34-135.
MEDLINE=97477915; PubMed=9336848;
Fairbrother W.J., Champe M.A., Christinger H.W.,
Starovasnik M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wiesmann C., Christinger H.W., Cochran A.G., Cunningham B.C., Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M., "Crystal structure of the complex between VEGF and a receptor-blocking
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.; "The crystal structure of vascular endothelial growth factor (VEGF) refined to 1.93-A resolution: multiple copy flexibility and recepto binding.";
                                                                                                                                                                                                                                                                                                                                                                                                     FASEB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Structure 6:637-648(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "1H, 13C, and 15N backbone assignment and secondary structure of receptor-binding domain of vascular endothelial growth factor."; Protein Sci. 6:2250-2260(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Biochemistry 37:17765-17772(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   peptide."
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS)
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Proc. Natl. Acad. Sci.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=97352774; PubMed=9207067
Muller Y.A., Li B., Christinger I
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=21320570; PubMed=11427521;
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                                                                                                                    with PIGF (By similarity).

SUBCELLULAR LOCATION: VEGF121 is acidic and freely secreted.

VEGF165 is more basic, has heparin-binding properties and,
although a signicant proportion remains cell-associated, most
freely secreted. VEGF189 is very basic; it is cell-associated
after secretion and is bound avidly by heparin and the
extracellular matrix, although it may be released as a soluble
form by heparin, heparinase or plasmin.
                                                                                                                                                                                                                                                                        FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin. Neuropilin-1 binds isoforms VEGF-165 and VEGF-145. SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
   Name=VEGF189;
IsoId=P15692-2;
                                                                                                     Event=Alternative
                                   IsoId=P15692-1;
                                                                         isoforms,
                                                                                       Comment=Experimental
                                                                                                                                                                                                                                                                                                                                                                                                 15:1667-1669(2001).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             lial growth factor: crystal structure nase domain receptor binding site."; Sci. U.S.A. 94:7192-7197(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Christinger H.W.,
Sequence=VSP_004622;
                                                                                       splicing; Named is
ental confirmation
                                   Sequence=Displayed;
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Meng G., de Vos A.M.
                                                                                   Named isoforms=7; irmation may be la
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Query Match

Score 206;

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Length 232;

RESULT 10 VEGA_CHICK

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VEGA_CAVPO
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P26617;
                                                                                                                                                                          ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Anglogenesis; Growth factor;
                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entre the European Bioinformatics Institute. There are no restructe by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A (VEGF-A)
                                                                                                                                                                                                                                                             EMBL; M84230; AAA37057.1;
HSSP; P15692; 1VGH.
                                                                                                                                                                                                                                                                                               entities requires a license agreement (See or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                     Pfam; PF00341; PDGF;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                   nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                              with PIGF (By similarity). SUBCELLULAR LOCATION: Secreted but
                                                                                                                                                                                                                                                                                                                                                                                                                                                     permeability (By similarity).
SUBUNIT: Homodimer; disulfide-linked.
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                                                                                                                                                                                                                                                                                                                                                                                                                   to the extracellular matrix unless
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 121
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                                              l Similarity
39; Conserv
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                                                                                                      Angiogenesis;
67
56 101
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ERRKHLFVQDPQTCKCSCRNTDSRCKARQLELNERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ERRKHLFV----QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
                       ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 232
                                                                                                                                                                                                                                             iPR000072; PD_growth_factor.
                                                                                             164
                                               Conservative
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                                                                                              19330
                                                         85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                90.9%;
                                                                                                                                                                                                                                                                                                                                                                                            TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                              ¥.
                                                                                                                                     th factor; Glycoprotein.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                             Score 203; DB 1; ]
Pred. No. 2.1e-17;
1; Mismatches 0;
                                                                                                      INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC...) (POT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. 1.3e-17;
); Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hystricognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                            9EB86A81A9D5DCA4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            164
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                                                                                                                                                                                                                                                                                                                                                                                                                s associated
ed by heparin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Vascular permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                     found as heterodimer
                                                                   Length 164;
                                               Indels
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 164
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                                                                                                                                                                                                                                                                                                                                              restrictions
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P52582; Q91420;
01-OCT-1996 (Rel. 34, C
15-JUL-1998 (Rel. 36, I
15-SEP-2003 (Rel. 42, I
Vascular endothelial)
                                                                                                                                the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Vascular endothelial growth factor (VEGF) and VEGF receptor 2 (flk-1) are expressed during vasculogenesis and vascular differentiation in the quail embryo.";

Dev. Biol. 169:699-712(1995).

-!- FUNCTION; Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Flt-1 and VEGFRI/Flt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Flamme I., von Reutern M., Drexler H.C., Syed-Ali S., Risave Overexpression of vascular endothelial growth factor in the embryo induces hypervascularization and increased vascular permeability without alterations of embryonic pattern formalized. 171:399-414 (1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VEGF OR VEGFA. (Chicken), and Gallus gallus (Chicken), and Coturnix coturnix japonica (Japanese quail). Coturnix coturnix japonica (Japanese quail).

Enharvota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Pharvota; Metazoa; Chordatae; Galliformes; Phasianidae; Phasiani
                                                                                              use
                                                                                                                                                                                                                          This
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted
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Takahashi T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15-JUL-1998 (Rel. 36, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPF).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SPECIES=C.c.japonica; TISSUE=Embryo; MEDLINE=96005007; PubMed=7556923;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9031,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'Chick embryonic ventricular myocytes VEGF."; ubmitted (FEB-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                ween the Swiss Institute of Bioinf
European Bioinformatics Institute
                                                                                                                                                                                                                                                                                                                                                                                upgraded during gastrulation. Expression of VEC only from day 2.
DOMAIN: VEGF-190 contains a basic insert which
                                                                                                                                                                                                                                                                                                                                                                                                                                                             IsoId=P52582-3; Sequence=VSP_004635, VSP 004636;
Note=Has been shown to exist only in quail so far;
TISSUE SPECIFICITY: Abundantly and equally expressed in h
liver. In kidney glomeruli, brain and yolk sac, VEGF-166
10-times more abundant than VEGF-190.
DEVELOPMENTAL STAGE: VEGF-166 is expressed early at day 1
upgraded during gastrulation. Expression of VEGF-190 is d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found
with PIGF (By similarity).
ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                       SIMILARITY: BELONGS TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Name=VEGF-146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Name=VEGF-166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Name=VEGF-190;
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                                                                                                                                                                                                                                                                                                                                                      retention
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                                                                                                                                                                                                                      SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IsoId=P52582-2; Sequence=VSP_004633, Note=Has been shown to exist only in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IsoId=P52582-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Comment=Additional isoforms
non-profit institutions as long as its content is in no way and this statement is not removed. Usage by and for commercial requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .japonica;
                                                                                                                                                                                                                                                                                                                                                      signal
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                                                                                                                                                                           Institute of Bioinformatics
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                                                                                                                                                                                                                                                                                                       THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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                                                                                                                                There are no restrictions
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quail so far;
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56 is 5- to
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RESULT 11
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PRESENTATION OF THE PRESEN
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Best Local S
Matches 37
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P49767;

P49767;

01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
15-SEP-2003 (Rel. 42, Last annotation update)
'15-SEP-2003 (Rel. 34, Last sequence update)
'15-SEP-2003 (Rel. 34, Last seque
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SMART; SM00141; PLUS;
SMART; SM00141; PLUS;
PROSITE; PS00249; PDGF 2; 1.

PROSITE; PS50278; PDGF 2; 1.

Micogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
Micogen; Angiogenesis; Growth factor; Multigene family.

SIGNAL
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CHAIN 27 216
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CARBOHYD
VARSPLIC
                                                                                                                                                                                                                                                                                                                             Joukov V., Pajusola K., Kaipainen A.,
Saksela O., Kaikkinen N., Alitaio K.,
"A novel vascular endothelial growth
the Flt4 (VEGFR-3) and KDR (VEGFR-2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AB011078; BAA24925.1;
EMBL; S79680; AAB35371.1; -.
HSSP; P15692; IVGH.
                            SEQUENCE FROM
TISSUE=Glial t
                                                                                                                   Joukov V., Pajusola K., Ka
Saksela O., Kalkkinen N.,
EMBO J. 15:1751-1751(1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A., AND SEQUENCE MEDLINE=96178224; PubMed=8617204;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
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MEDLINE=96312526;
                                                                                                                                                                                                             MEDLINE=96203094;
                                                                                                                                                                                                                                               ERRATUM.
                                                                                                                                                                                                                                                                                                    EMBO J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                    15:290-298(1996).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               167
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                                                        N.A.
PubMed=8700872;
                                                                                                                                                                                                             PubMed=8612600;
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                                                                                                                                                  K., Kaipainen
en N., Alitalo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25203
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 190; DB 1;
Pred. No. 9.1e-16;
2; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Missing (In isoform VEGF-146)
/FTId=VSP_004636.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Missing (In isoform VEGF-166)
/FTId=VSP_004634.
F -> L (in isoform VEGF-146).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FTId=VSP_004635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FTId=VSP_004633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          82E669C2F6FC6DA7 CRC64;
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                                                                                                                                                  Χ.
                                                                                                                                                                                                                                                                                                                                    receptor tyrosine kinases."
                                                                                                                                                                                                                                                                                                                                                                factor, VEGF-C, is a ligand for
                                                                                                                                                                                 Chilov
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MIM, 601528; -.

RGO; GO:0007515; P:lymph gland development; TAS.

RGO; GO:0007515; P:positive regulation of cell proliferation; TAS.

RGO; GO:0008284; P:positive regulation of cell proliferation; TAS.

RGO; GO:0006165; P:signal transduction; TAS.

RGO; GO:0006929; P:substrate-bound cell migration; TAS.

RINterPro; IPR004153; CXCXC repeat.

RINterPro; IPR004150; GF cysEnot.

RINterPro; IPR000410; GF cysEnot.

RINTERPO; IPR000072; PD_growth_factor.

R Pfam; PF03128; CXCXC; S.

R Pfam; PF03128; CXCXC; S.

R Pfam; PF00341; PDGF; 1.

R ProDom; PD001629; PD_growth_factor; 1.

R Pfam; PD001629; PD_growth_factor; 1.

R PARTY; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                   EMBL; X94216; CAA63907.1; -. EMBL; U43142; AAA85214.1; -. EMBL; U58111; AAB02909.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBO J. 16:3898-3911(1997).

-!- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth, stimulating their proliferation and migration and also has effects on the permeability of blood vessels. May function in angiogenesis of the venous and lymphatic vascular systems during embryogenesis, and also in the maintenance of differentiated lymphatic endothelium in adults. Binds and activates VEGFR-2 (Flk1) and VEGFR-3 (Flt4) receptors.

-!- SUBUNIT: Homodimer; non-covalent and antiparallel.
-!- SUBCELLULAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: Spleen, lymph node, thymus, appendix, bone colon and small intestine and fetal liver, lung and kidney, but not in peripheral blood lymphotyte.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Joukov V., Sorsa T., Kumar V., Jeltsch M., Claesson-Welsh L., Cao Y., Saksela O., Kalkkinen N., Alitalo K.; "Proteolytic processing regulates receptor specificity and activity o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fitz L.J., Morris J.C., Towler P., Long A., Burge Wang J., Gassaway R., Nickbarg E., Kovacic S., Ci Giannotti J., Finnerty H., Zollner R., Beier D.R. Turner K.J., Wood C.R.;
"Characterization of murine Flt4 ligand/VEGF-C.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A. MEDLINE=97388482; PubMed=9247316;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lee J., Gray A., Yuan J., Luoh S.-M., Avraham H., Wood W.I.;
"Vascular endothelial growth factor-related protein: a ligand and
specific activator of the tyrosine kinase receptor Flt4.";
proc. Natl. Acad. Sci. U.S.A. 93:1988-1992(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               entities requires a license agreement (S or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                    Genew; HGNC:12682; VEGFC.
                                                                                                                                                                                                                                                                                                                                           PIR; S69207; S69207.
HSSP; P15692; 1VPP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <del>-</del>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PTM: Undergoes a complex proteolytic maturation which generates a variety of processed secreted forms with increased activity toward VEGFR-3, but only the fully processed form could activate VEGFR-2. VEGF C first form an antiparallel homodimer linked by disulfide bonds. Before secretion, a cleavage occurs between arg-227 and ser-228 producing an heterotetramer. The next extracellular step of the processing removes the N-terminal propeptide. Finally the mature VEGF-C is composed mostly of two VEGF homology domains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (VHDs) bound by non-covalent interactions. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SWISS-PROT entry is copyright. It is produ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (VHDs) bound
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SS-PROT entry is copyright. It is produced through a collaboration the Swiss Institute of Bioinformatics and the EMBL outstation - pean Bioinformatics Institute. There are no restrictions on its non-profit institutions as long as its content is in no way and this statement is not removed. Usage by and for commercial requires a license agreement (See http://www.isb-sib.ch/announce/
PS00249; PDGF_1; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PubMed=9233800;
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Kovacic S., Ciarletta A.,
R., Beier D.R., Leak L.V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AND MUTAGENESIS OF ARG-227.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             collaboration -
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RESULT 12
BAR3_CHITE
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"The Balbiani ring 3 gene in Chironomus tentans ha
repetitive structure split by many introns.";
J. Mol. Biol. 211:331-349(1990).

-I- FUNCTION: USED BY THE LARVAL TUBE. BALBIANI RING PROTINGLE AS A TRANSPORT PROTEIN THAT BINDS TO OTHE
ROLE AS A TRANSPORT PROTEIN THAT BINDS TO OTHE
INTRACELLULARLY AND IN THE GLAND LUMEN IN ORDES
FROM FORMING MATER-INSOLUBLE FIBERS TOO EARLY.
-I- SUBSCELIULAR LOCATION: Secreted.
-I- TISSUE SPECIFICITY: SALIVARY GLAND.
-I- DOMAIN: HAS 82 APPROXIMATE REPEATS OF CYS-X-CY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                             Q0376;
Q0376;
01-OCT-1993 (Rel. 27, Created)
01-OCT-1993 (Rel. 27, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Ralbiani ring protein 3 precursor.
        entities
or send a
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DISULFID
CARBOHYD
CARBOHYD
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MUTAGEN
                            This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entropean Bioinformatics Institute. There are no restrues by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
TISSUE=Salivary gland;
MEDLINE=90172404; PubMed=1689777;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
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Chironomidae;
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        requires a license agreement (See an email to license@isb-sib.ch).
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Endopterygota; Diptera; Nematocera; Chironomoidea;
dae; Chironominae; Chironomus.
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INTERCHAIN (BY SIMILARITY).

N-LINKED (GLCNAC. . .) (POTENTIAL).

N-LINKED (GLCNAC. . .) (POTENTIAL).

N-LINKED (GLCNAC. . .) (POTENTIAL).

R-S: NO PROTEOLYTIC PROCESSING AND EFFECT ON VEGFR-2 AND VEGFR-3.
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Pred. No. 0.07
6; Mismatches
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BY
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Y SIMILARITY.
Y SIMILARITY.
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                                                                                                OF CYS-X-CYS-X-CYS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1;
                                                                                                                                          UCT A SUPRAMOLECULAR
ING PROTEIN 3 COULD PLAY
TO OTHER PROTEINS
IN ORDER TO PREVENT THE
                    http://www.isb-sib.ch/announce,
                                                                                                                                  EARLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 419;
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOUSE
VEGC_N
                                                             -
                                                                                                                                                     ++
                                                                                                                                                                                                                                                                                             Oncogene 15:613-618(1997).
-!- FUNCTION: Growth factor active
                                                                                                                                                                                                                                                                                                                                                                        Fitz L.J., Morris J.C., Towler P., Wang J., Gassaway R., Nickbarg E.,
                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A., AND SEQUENCE OF STRAIN=BALB/c;
MEDLINE=97388482; PubMed=9247316;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "VEGF-C receptor binding and pattern of expression with VEGFR-3 suggests a role in lymphatic vascular development."; pevelopment 122:3829-3837(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-UUL-1998 (Rel. 36, Created)
15-UUL-1998 (Rel. 36, Last sequence update)
15-UUL-1998 (Rel. 36, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor C precursor (VEGF-C) (Vascular endothelial growth factor related protein) (VRP) (Flt4 ligand) (Flt4-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P97953;
15-JUL-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Repeat; Signal SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HSSP; P15358; 1SKZ.
InterPro; IPR004153; CXCXC_repeat
Pfam; PF03128; CXCXC; 71.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; X52263; CAA36506.1;
PIR; S08167; S08167.
                                                                                                                                                                                                                                                                                                                           Giannotti J., Finnerty H., Zollner R., Beier D.R.
Turner K.J., Wood C.R.;
"Characterization of murine Flt4 ligand/VEGF-C.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kukk E., Lymboussaki A.,
Joukov V., Alitalo K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=BALB/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=97164697; PubMed=9012504;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                  cell growth, stimulating their proliferation and migration and also has effects on the permeability of blood vessels. May function in angiogenesis of the venous and lymphatic vascular systems during embryogenesis, and also in the maintenance of differentiated lymphatic endothelium in adults. Binds and activates VEGFR-2 (Flk1) and VEGFR-3 (Flt4) receptors. SUBUNIT: Homodimer; non-covalent and antiparallel. SUBCELIULAR LOCATION: Secreted.
                                                                                      postimplantation embryos, particularly in the regions where the lymphatic vessels undergo sprouting from embryonic veins, such a the perimetanephric, axillary and jugular regions, and in the developing mesenterium. Expressed in adult heart, brain, spleen,
            VEGFR-3, but only the fully processed form could activate VEGFR-2 VEGF-C first form an antiparallel homodimer linked by disulfide
                                          variety of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SCOM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity 38.1
15; Conservative
                                        Undergoes a complex proteolytic maturation which generates ety of processed secreted forms with increased activity toware
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CEK-----SCACVCPNAD-KCTAPQVWNKDTCCCGCP 156
                                                                          liver, skeletal muscle and kidney.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1700 AA; 186145 MW; 34202B28521B0815 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Mouse)
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1700
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Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Taira S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 71;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         POTENTIAL.
BALBIANI RING PROTEIN 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                      Long A., Bus
Kovacic S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kaipainen A., Jeltsch
                                                                                                                                                                                                                                                                                             in angiogenesis,
                                                                                                                                                                                                                                                                                                                                                                                                                                       108-126.
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                                                                                                                                                                                                                                                                                                                                                         Beier D.R., Leak L.V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0.62;
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                                                                                                                                                                                                                                                                                                                                                                        Burgess P., Greco R.,
S., Ciarletta A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11; Indels
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                                                                                                                                                                                                                                                                                             and endothelial
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                                                                                                                    such as
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RESULT 14
CRS5_YEAST
TAPPER 20000X
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Best Local
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PROSITE; PS00249; PDGF 1; 1.

PROSITE; PS50278; PDGF 2; 1.

Angiogenesis; Mitogen; Growth factor; Glycoprotein; S

Angiogenesis; Mitogen; Growth factor; Multigene family.

Cleavage on pair of basic residues; Multigene family.

BY SIMILARITY.

BY SIMILARITY.
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SEQUENCE
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REPEAT
REPEAT
                                                                                                   01-NOV-1995 (Rel. 32, Created O1-NOV-1995 (Rel. 32, Last 8g 28-FEB-2003 (Rel. 41, Last ar Metallothionein-like protein CRS5 OR YOR031W.
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PROPEP
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ProDom; PD001629; PD_growth_factor;
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR004153; CXCXC_repeat.
InterPro; IPR002400; GF cysknot.
InterPro; IPR000072; PD_growth_factor.
Pfam; PF03118; CXCXC; 5.
Pfam; PF00341; PDGF; 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; U73620; AAC52984.1; -. EMBL; U58112; AAB46707.1; -.
                                                                                                                                                                                                                  P41902;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entities requires a license agreement (See http://www.isb-sib.ch/announce or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                use by non-profit institutions as long as its content modified and this statement is not removed. Usage by ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                    CRS5_YEAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MGD; MGI:109124; Vegfc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ser-228 producing an heterotetramer. The next extracellular step of the processing removes the N-terminal propeptide. Finally the mature VEGF-C is composed mostly of two VEGF homology domains (VHDB) bound by non-covalent interactions (By similarity). SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P15692;
                                                                                                                                                                                                                                                                                                                                                                                                                                     14;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                               CGPHKELDRDSCQCVCKNKLFPNSCGANREFDENTCQC 337
                                                                                                                                                                                                                                                                                                                                                                                          CERRKHLFVQTCKCSCKNT--DSRCKARQLENERTCRC 36
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1VPP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A,
                                                                                                                                                                                                                                         STANDARD,
                                                                                                                                                 32, Created)
32, Last sequence u
41, Last annotation
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315
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107
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BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
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Pred No. 0.
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INTERCHAIN (BY SIMILARITY).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VASCULAR ENDOTHELIAL GROWTH FACTOR
                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           D9D3DD3CECC659D6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Glycoprotein; Signal; Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (GLCNAC. . .) (POTENTIAL). (GLCNAC. . .) (POTENTIAL). (GLCNAC. . .) (POTENTIAL).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 415;
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Saccharomycetales; NCBI_TaxID=4932;

Saccharomyces cerevisiae (Baker's yeast). Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;

CRS5

update)

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Saccharomycetaceae;

Saccharomyces

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RESULT 15 .
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Best Local S
Matches 12
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01-0CT-1996 (Rel. 34, Created)
01-0CT-1996 (Rel. 34, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SHEEP
VEGA_
                                                                                                                                                                              Redmer D.A., Dai Y., Li J., Charnock-Jones D.S., Smith S.K., Reynolds L.P., Moor R.M.; Reynolds L.P., Moor R.M.; "Characterization and expression of vascular endothelial growth factor (VEGF) in the ovine corpus luteum."; J. Reprod. Fertil. 108:157-165(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ovis aries (Sheep).
Eukaryota; Metazoa; Chordata; Craniat
Bundarja; Butheria; Cetartiodactyla;
Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SGD; S0005567; CRS5.

GO; GO:0005507; F:copper ion binding action GO; GO:0009412; P:response to heavy mel Metal-binding; Metal-thiolate cluster.

SEQUENCE 69 AA; 7321 MW; CEEF91203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          between the Swiss Institute of Bioinformatics and the EMBL outst
the European Bioinformatics Institute. There are no restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This
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Submitted (MAY-1995) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: CRITICAL ROLE IN COPPER (SPECIFIC) HOMEOSTASIS AND
                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; L29056; AAA66061.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entities requires a license agreement (S or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=95014318; PubMed=7929222; Culotta V.C., Howard W.R., Liu X.F.; "CRS5 encodes a metallothionein-like
                                                                                                                                                                                                                                                                                                                         MEDLINE=97117958; PubMed=8958842;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=S288c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cerevisiae.";
                                                                                                                                                                                                                                                                                                                                                     TISSUE=Kidney;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COPPER IONS.
SIMILARITY: BELONGS TO THE METALLOTHIONEIN SUPERFAMILY; FAMILY 13.
                        FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
     heparin (By similar SUBUNIT: Homodimer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DETOXIFICATION. MAY PROTECT BY DIRECTLY CHELATING AND SEQUESTERING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OR VEGFA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SHEEP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SWISS-PROT entry is copyright. It is produced through en the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10 QTCKC-----SCKNTDSRCKARQLENERTCRCDKPR 40
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EKCKCDHSTGSPQCKSCGEKCKC----ETTCTCEKSK 63
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disulfide-linked. Also found as heterodimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 61; DB:
Pred. No. 0.52
5; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; Euteleostomi; actyla; Ruminantia; Pecora; Bovoidea;
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SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
PROSITE; PS50278; PDGF 2; 1.
Mitogen; Angiogenesis; Growth factor;
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                                                                                                                                                                                         CHAIN
                                                                                                                                                                                                      Mitogen; Angiogenesis; Grow
Heparin-binding; Multigene
SIGNAL 1 26
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                                                                                                                                                                                                                                                                                                                             EMBL; X89506; CAA61677.1; -. PIR; S57956; S57956.
                                                                                                                                                                                                                                                                                                                   HSSP; P15692; 1VPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      with PlGF (By similarity).
-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                           Pfam; PF00341; PDGF;
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                        FVOTCKCSCKNTDSRCKARQLENERTCRCDKPRR
FLQHNKCECR--PKKDKARQE----KCDKPRR
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44.1%;
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POT:
4E792CB557F91760 CRC64;
                                                             Score 61; I
Pred. No. 1;
                                                                                                                                                   VASCULAR ENDOTHELIAL GROWTH FACTOR BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                    BY SIMILARITY
                                                                                                                                                                                                                            factor; Glycoprotein; Signal;
                                                Mismatches
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 146
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sp_invertebrate:*
sp_mammal:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

16	15	14	13	12	11	10	9	8	7	6	5	4	ω	2	1	Result No.
169	176.5	184	190	201	206	206	206	206	206	206	206	206	206	206	206	Score
71.3	74.5	77.6	80.2	84.8	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9	Query Match
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Q9n1s1 capreolus c	O88911 rattus norv	Q9er16 mesocricetu	O42572 xenopus lae	Q8mi20 ovis aries	Q95ne5 macaca fasc	Q96182 homo sapien	Q9qx39 spalax leuc	Q91ze1 rattus norv	077643 ovis aries	Q95lq4 felis silve	Q8mj86 capreolus c	Q8min1 capra hircu	Q63672 rattus norv	Q9xt61 macaca fasc	Q8mi19 ovis aries	Description

ALIGNMENTS

RESULT 2 Q9XTG1 D Q9XTG1 PRELIMINARY; PRT; 102 AA. AC Q9XTG1; PRELIMINARY (Created) DT 01-NOV-1999 (TremBirel. 12, Created) DT 01-NOV-1999 (TremBirel. 12, Last sequence update)	Qy 2 ERRKHLFVQTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41	Query Match 86.9%; Score 206; DB 6; Length 64; Best Local Similarity 90.9%; Pred. No. 7.2e-22; Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;	RI CELLS."; RL Submitted (AUG-2002) to the EMBL/GenBank/DDBJ databases. DR EMBL; AF534638; AAN04109.1; PT NON_TER 1 1 SQ SEQUENCE 64 AA; 7674 MW; 8BF719596DDEF6B6 CRC64;		OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; OC Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea; OC Bovidae; Caprinae; Ovis. OX NCBI_TaxID=9940; Til_TaxID=9940;		SUL MI1
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RESULT

OGS 672

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01-NOV-1996 (TrEMBLrel. 01, C
01-NOV-1998 (TrEMBLrel. 08, L
01-MAR-2003 (TrEMBLrel. 23, L
Vascular endothelial growth f
Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q63672;
Q63672;
                                                                                                                                                                                                                                       Ladoux A., Frelin C.;
"Expression of vascular endothelial growth factoendothelial cells from brain microvessels.";
Biochem. Biophys. Res. Commun. 194:799-803(1993)
EMBL; AF062644; AAC16448.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=CD; TISSUE=Lung;
Kim I., Ryan A., Rohan R., Aquilar S., Amano S
Miller J., Adamis A.P.;
Submitted (MAY-1998) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AF106942; AAD20589.1; ... InterPro; IPR000072; PD_growth_factor Pfam; PF00341; PDGF; 1.
                                                                                              Pfam; PF00341; PDGF;
NON_TER 1
SEQUENCE 102 AA; 1
                                                                                                                                                                                             EMBL; L20913; AAA42334.1; -. EMBL; S64321; AAB27671.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Yakovlev A.G., Faden
Submitted (JUL-1993)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-SPRAGUE-DAWLEY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQÜENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Lung;
Kim I.K., Ryan A.M., Rohan R., Amano S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cercopithecinae; Macaca.
NCBI_TaxID=9541;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAR-2003 (TrEMBLrel. 23, Vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=93343939;    PubMed=8343163;
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                                                                                                                                                                         [nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'Constitutive expression of VEGF, VEGFR-1
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    40;
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                                                                                                                                                                    IPR000072; PD_growth_factor
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    Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chordata; Craniata; Vertebrata; Euteleostomi; Rodentia; Sciurognathi; Muridae; Murinae; Rattus
                                                                                              12163 MW;
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                      90.9%;
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Score 206; DB 11;
Pred. No. 1.1e-21;
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Pred. No. 1.1e-21;
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                                               DB 11;
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                                                                                                 CRC64;
                                               Length 102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Brown L.F.,
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  Indels
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                                                                                                                                                                                                                                                                                                                  cultured
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  Gaps
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  2
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Q8MJ86
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Q8MIN1
  SOUCH TO THE PROPERTY OF THE P
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NON TER
NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q8MJ86;
                                                                                                                                           Submitted (MAY-2002) to the EMBL/GenBank/DDBJ EMBL; AF514284; AAM49789.1; -. InterPro; IPR000072; PD_growth_factor. Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                               Vascular endothelial growth factor-3 (Fragment).
Capreolus capreolus (Roe deer).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-OCT-2002 (TrEMBLrel. 22,
01-OCT-2002 (TrEMBLrel. 22,
01-MAR-2003 (TrEMBLrel. 23,
                                                                                              ProDom; PD001629; PD_growth_factor; SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bovidae; Caprinae; Capra.
NCBI_TaxID=9925;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-2002 (TrEMBLrel. 22,
01-OCT-2002 (TrEMBLrel. 22,
01-MAR-2003 (TrEMBLrel. 23,
                                                                   PROSITE; PS50278; PDGF_2; 1.
                                                                                                                                                                                                                                            Wagener A., Fickel J.;
"Detection of VEGF in roe deer testis.";
                                                                                                                                                                                                                                                                                           TISSUE=Testis;
                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9858;
                                                                                                                                                                                                                                                                                                                                                                                          Mammalia; Eutheria; Cetartiodactyla;
Cervidae; Odocoileinae; Capreolus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Corpus luteum;
Kawate N., Tsuji M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vascular endothelila growth Capra hircus (Goat).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
  131
131 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        109 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12656 MW;
    15358 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Last sequence update)
    99719A58EEAC7FCA CRC64;
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Ruminantia; Pecora;

Cervoidea;

databases

update)

131

B

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Kawate N., Tsuji M., Tamada H., Inaba T., Sawada T.; "Changes of Messenger RNAs Encoding Vascular Endothelial and Its Receptors during the Development and Maintenance
                                                                                                                                                                                                            Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases. EMBL; AY114352; AAM76673.1; -. InterPro; IPR000072; PD_growth_factor.
                                                                                                                                                     ProDom; PD001629; PD growth factor; SMART; SM00141; PDGF; 1.
                                                                                                                                                                                        interpro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cetartiodactyla;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           factor 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Created)
                      Score 206; DB 6;
Pred. No. 1.1e-21;
                                                                                    912657251A37E023 CRC64;
  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ruminantia; Pecora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (Fragment).
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  <u>,,</u>
                                          Length 109
  Indels
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                                                                                                                                                                                                                                                                                                                         Growth Factor
                                                                                                                                                                                                                                                                                                     of.
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RESULT

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Best Local S
Matches 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               O77643;
01-NOV-1998 (TrEMBLrel. 08, Cr
01-NOV-1998 (TrEMBLrel. 08, Lr
01-MAR-2003 (TrEMBLrel. 23, Lr
Vaccular endothelial growth f
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Best Local
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                                                                                                     expression in fetal tissues.";
Growth Factors 0:0-0(1998).
EMBL; AF071015; AAC23608.1; -.
HSSP; P49763; 1FZV.
Interpressions and the services of the services 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q95LQ4
Q95LQ4;
01-DEC-2001
01-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProDom; PD001629; PD_growth_fa
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
SEQUENCE 189 AA; 22193 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Koga L., Kobayashi Y.
"Nucleotide sequence
growth factor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-DEC-2001 (TrEMBLrel. 19, 01-DEC-2001 (TrEMBLrel. 2), 01-DEC-2003 (TrEMBLrel. 23, Vascular endothelial growth Pelis silvestris catus (Cat)
                               Pfam; PF00341; PDGF; ProDom; PD001629; PD_
                                                                           InterPro; IPR000072; PD_growth_factor.
                                                                                                                                                                                                                                            Cheung C.Y., Brace R.A.; "Ovine vascular endothelial
                                                                                                                                                                                                                                                                                                        STRAIN=Columbia-Ramboulliet;
                                                                                                                                                                                                                                                                                                                                                                                          Bovidae; Caprinae; Ovis.
NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ovis aries (Sheep).
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EMBL; AB071947; BAB68520.1; -.
InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
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Mammalia; Eutheria; Carnivora; Fissipedia;
                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7
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      SM00141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 40;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ERRKHLFV---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 131
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ilarity 90.9%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
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   PDGF;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Ruminantia; Pecora; Bovoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        us (Cat).
Chordata; Craniata; Vertebrata;
Chordata; Fissipedia; Felidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       90.9%;
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                         growth_factor;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          azawa M., Ma
expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Last sequence update)
Last annotation update)
factor.
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Pred. No. 1.8e
0; Mismatches
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vascular endothelial
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Best Local
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Q9QX39;
01-MAY-2000
01-MAY-2000
01-MAR-2003
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PROSITE;
SEQUENCE
                                                                                                                                                                                                                                                                                                                Spalax leucodon ehrenbergi (El
Spalax leucodon ehrenbergi (El
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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Q91ZE1;
01-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-MAR-2003 (TrEMBLrel. 23,
SEQUENCE FROM N.A.

MEDLINE=99313148; PubMed=10386577;

Avivi A., Resnick M.B., Nevo E., Joel A., Levy A.P.;

"Adaptive hypoxic tolerance in the subterranean mole ehrenbergi: the role of vascular endothelial growth FEBS Lett. 452:133-140(1999).

EMBL; AF186236; AAD55245.1; -.
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PROSITE; PS50278; PDGF_2; 1.
SEQUENCE 190 AA; 22396 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cardiomyocytes.";
Submitted (Apr-2001) to the EMBL/GenBa
EMBL; AY033506; AAL07526.1;
InterPro; IPR000072; PD_growth_factor.
Pram; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                         Nannospalax
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Mammalia; Eutheria; Rodentia;
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                                                                                                                                                                                                                                                    NCBI_TaxID=30637;
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||||||||
ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
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PS50278; PDGF_2; 1.
190 AA; 22342 MW;
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nilarity 90.9%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
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ta; Craniata; Vertebrata;
ia; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Last sequence update)
Last annotation updat
factor.
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Last sequence up
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Pred. No. 1.9e
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Pred. No. 1.9e-21;
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Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
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                                                                                                                                                                                                                                                                                                                   Euteleostomi;
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Best Local S
Matches 40
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Best Local S
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Q95NE5;
01-DEC-2001
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PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS00278; PDGF 2; 1.
SEQUENCE 190 AA; 22488 MW; 2228:
Shima D.T., Gougos A., Miller Adamis A.P., D'Amore P.A.; "Cloning and mRNA expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR000072; PD_growth_factor.
Pfam; PF00311; PDGF; 1.
ProDom; PD001629; PD growth factor; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
SEQUENCE 191 AA; 22314 MW; CCE5709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Liu J., Peng X., Yuan J., Qiang B.; "Cloning of vascular endothelial growth factor Submitted (JUL-2001) to the EMBL/GenBank/DDBJ dEMBL; AY047581; AXX95847.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (Human).
Eukaryota; Metazoa; (
Mammalia; Eutheria; F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q96L82;
01-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-OCT-2002 (TrEMBLrel. 22,
                                                                    SEQUENCE FROM N.A.
MEDLINE=96245208; PubMed=8641836;
                                                                                                                                                              Macaca fascicularis (Cra
Eukaryota; Metazoa; Chor
Mammalia; Eutheria; Prim
Cercopithecinae; Macaca.
                                                                                                                                                                                                                                                           SIMVEGF165
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01-OCT-2002
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InterPro; IPR000072; PD
Pfam; PF00341; PDGF; 1.
                                                                                                                                       NCBI_TaxID=9541;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
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                                                                                                                                                                                                                                                                                                      (TrEMBLrel. (TrEMBLrel.
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                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chordata;
Primates;
                                                                                                                                                                                    (Crab eating macaque) (Cynomolgus monkey). Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  86.9%;
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19,
22,
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Last annotation update)
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Pred. No. 1.9e-21;
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Pred. No. 1.9e-21;
       of vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCE57097DD3779BD CRC64;
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                                                 Tolentino M.,
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    growth factor
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RESULT 13
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Best Local S
Matches 39
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Best Local Similarity
Matches 40; Conser
                                                                                                              O42572;
01-JAN-1998 (TrEMBLrel. 05,
01-JAN-1998 (TrEMBLrel. 05,
01-MAR-2003 (TrEMBLrel. 23,
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PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea Bovidae; Caprinae; Ovis.

NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q8MI20
Q8MI20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ischemic retinas of Macaca fascicularis.";
Invest. Ophthalmol. Vis. Sci. 37:1334-1340(1996).
EMBL; S82167; AAB47118.1; -.
                                   Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; l
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea;
Xenopodinae; Xenopus.
                                                                                         VEGF
                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (AUG-2002) to the EMBL/GenBank/DDBJ databases EMBL; AF534637; AAN04108.1; -. Interpro; IPR000072; PD_growth_factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-Placental artery endothelium;
Chung J.-Y., Tsoi S.C.M., Wen Y.-X., M
"Expression of VEGF receptors in ovine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-OCT-2002 (TrEMBLrel. 22, 01-OCT-2002 (TrEMBLrel. 22, 01-MAR-2003 (TrEMBLrel. 23, Vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProDom; PD001629; PD growth factor; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
SEQUENCE 191 AA; 22314 MW; CCE5709
SEQUENCE FROM N.A
                                                                        Xenopus laevis (African clawed frog).
                                                                                                  Vascular endothelial growth
                                                                                                                                                                    042572
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Pfam; PF00341; PDGF; 1.
                     NCBI_TaxID=8355;
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39; Conserv
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PS50278; PDGF_2; 1.
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90.7%;
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90.9%;
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Pred. No. 6e-21;
0; Mismatches
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                                                                                                      factor 196
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Pred. No. 1.9e-21;
0; Mismatches 0;
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ne placental artery e
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                                                                                                                 update)
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RESULT 15
OB891
ID OB891
AC OB891
DT 01-NC
DT 01-MA
DE Vascu
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OC Eukar
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Best Local
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Best Local Similarity
                                            OB8911;
01-NOV-1998 (TrEMBLrel. 08, Cr
01-NOV-1998 (TrEMBLrel. 08, La
01-MAR-2003 (TrEMBLrel. 23, La
Vascular endothelial growth f
                                                                                                                                                                                                                                                                                                                                                                                                       Matches
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Q9ERL6; PRT (TEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor VEGF (Fragment).
Mesocricetus auratus (Golden hamster)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProDom; PD001629; Pb_growth_factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
SEQUENCE 194 AA; 22672 MW; 85D7BEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NON TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE;
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EMBL; AF008594; AAB63680.1;
HSSP; P49763; 1FZV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (AUG-2000) to the EMBL; AF297627; AAG16241.1; HSSP; P49763; 1FZV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ramesh G., Kondaiah P., Seshagiri P.B.;
"Regulation of expression of transforming growth factor-beta's
steroid hormone in the hamster uterus.";
Eukaryota; Metazoa;
                      Rattus norvegicus (Rat)
                                                                                                                                                                                        088911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=10036;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mesocricetus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00341; PDGF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProDom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ptam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000072; PD_growth_factor.
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                                                                                                                                                                                                                                                                                                         103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; pD001629; PD growth_factor; 1.
SM00141; pDGF; 1.
E; pS00249; pDGF_1; 1.
E; pS50278; pDGF_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                       36;
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                                                                                                                                                                                                                                                                                                                                     ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCD
                                                                                                                                                                                                                                                                                                         ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                142
142 AA;
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                                                                                                                                                                                        PRELIMINARY;
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Rodentia; Sciurognathi; Muridae;
Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16621 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                      77.6%;
90.0%;
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Kenopus embryo.";
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                                                                  Last sequence update)
Last annotation update)
factor A 110 (Fragment).
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Pred. No. 1.9e-18;
0; Mismatches 0
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Pred. No. 3.5e-19;
2; Mismatches 1;
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; Cricetinae;
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Best Local Similarity
Matches 32; Conserv
                                                                                                                                             PRINTS; PR00438; GFCYSKNOT.
ProDom; PD001629; PD_growth_factor;
SMART; SM00141; PDGF; 1.
                                                                                              PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
NON TER 1 1 1.
SEQUENCE 110 AA; 12713 MW
                                                                                                                                                                                                                                               "Expression of messenger ribonucleic acid endothelial growth factor in the penis of Biol. Reprod. 60:398-404(1999).
                                                                                                                                                                                                                                Biol. Reprod. 60:398-404(17)
EMBL; AF080594; AAC36708.1;
                                                                                                                                                                                                                                                                                    Burchardt M., Burchardt T., Chen M.W., Buttyan R., Shabsigh R.;
                                                                                                                                                                                    InterPro; IPR002400;
InterPro; IPR000072;
Pfam; PF00341; PDGF;
                                                                                                                                                                                                                                                                                                            STRAIN=Sprague-Dawley; TISSUE=Penis; MEDLINE=99115228; PubMed=9916007;
                                                                                                                                                                                                                                                                                                                                                            Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NGBI_TaxID=10116;
                                                                                                                                                                                                                         HSSP; P49763; 1FZV
                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
77
            9 VQTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
MOTOKOSCKNTDSRCKARQLELNERTCRCDKPRR
                                               Conservative
                                                                                               12713 MW;
                                                          74.5%;
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PD_growth_factor.
                                               1;
                                                          Score 176.5; DB 1
Pred. No. 1.8e-17;
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                                               Mismatches
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Search completed: January 30, 2004, 11:44:41 Job time: 43.4718 secs

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Minimum DB
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                                                                 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Gapop 10.0 , Gapext 0.5
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1. /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1980.DAT:*

2. /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1981.DAT:*

3. /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1982.DAT:*

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SUMMARIES
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Result No.	Score		Length	BB	ID	Description
ם	138	- 1	26 21	21	AAB18548	Immunogenic peptid
2	133	96.4	101	24	AAE32330	Human VEGF-A recep
w	133	96.4	102	22	AAU08484	VEGFR-1 binding ep
4	133	96.4	105	21	AAB53387	Human colon cancer
5	133	96.4	105	22	AAU08407	Polypeptide encode
6	133	96.4	105	22	AAU08411	Polypeptide encode
7	133	96.4	110	21	AAY69417	Amino acid sequenc
89	133	96.4	110	21	AAY83038	Human vascular end
9	133	96.4	110	22	AAG79276	Primary sequence o

ALIGNMENTS

AAB18548 standard; peptide; 26 ₽

AAB18548;

15-JAN-2001 (first entry)

Immunogenic peptide fragment derived from FGF and/or VEGF.

AABIUT 1
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ID AABI
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XX I neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia; arthritis; diabetic neovascularisation; macular degeneration; wound healing; peptic ulcer; Helicobacter related disease; fracture; keloid; vasculogenesis; hematopolesis; ovulation; menstruation; placentation; cat scratch fever. Immunogenic peptide; fibroblast growth factor; PGP; VEGP; cancer; vascular endothelial growth factor; hyperproliferative disorder; haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis; telangiectasia; psoriasis; scleroderma; pyogenic granuloma; myocardial angiogenesis; Crohn's disease; plaque neovascularisation; arteriovenous malformation; corneal disease; rubeesis; fibrolicia.

Unidentified.

WO200053219-A2

10-MAR-2000; 2000WO-US06320.

11-MAR-1999; 99US-0266543

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RESULT 2
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                                                                                      portion, mammals
                                                                                                               New fusion protein comprising a non-heparin-binding vascular endothelial growth factor (VEGF) peptide portion and a non-V portion, useful for promoting angiogenesis and/or bone growti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis, scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's disease, plaque neovascularisation, arteriovenous malformations, corneal diseases, rubeosis, neovascular glaucoma, diabetic retinopathy, retrolental fibroplasia, arthritis, diabetic neovascularisation, macular degeneration, wound healing, peptic ulcer, Helicobacter related diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAB18542-51 represent immunogenic peptide fragments of fibroblast growth factor (FGF) and/or vascular endothelial growth factor (VEGF The peptides are used to produce immunogenic compositions. The immunogenic composition is used for treating cancer or immunogenic composition is used for treating cancer or hyperproliferative disorders, especially haemangioma, solid tumours, hyperproliferative disorders, especially haemangioma, solid tumours, high processing the second control of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             An immunogenic composition useful for treating cancer or hyperproliferative disorders comprises an immunogenic peptide fragment of fibroblast growth factor and/or vascular endothelial growth factor
                                                                                                                                                                                                                                                                                       WPI; 2003-075536/07
                                                                                                                                                                                                                                                                                                                                                                 Kovesdi
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vascular endothelial growth factor; VEGF; angiogenesis; wound healing; bone growth; osteoporosis; osteoarthritis; bone reconstruction; ulcer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human VEGF-A receptor binding domain
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26; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        trauma; periodontal condition; protein therapy; human
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Pred. No. 8.4e-15;
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Disclosure; Page 118-119; 191pp; English

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Matches 25
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The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFs), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculagenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiogenesis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis;
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                                                                                                                                                                                                                                                                                                                                                           Example 4; Page 115; 261pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                      Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them -
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18-MAY-2000;
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2000US-0205331.
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96.2%;
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Pred. No. 2.7e-13;
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Called human colon cancer antigens, given in AAB53034 to AAB54006. The called human colon cancer antigens, given in AAB53034 to AAB54006. The chuman colon cancer antigens can have cytostatic, cardioactive, muscular; chuman colon cancer antigens can have cytostatic, cardioactive, muscular; chuman colon cancer antigens can have cytostatic, gastrointestinal.

CC uninerary, nephrotropic, antiinfective and antibacterial activities, and can be used in gene therapy. The colon cancer antigen polymucleotides, and come be used in diagnosis of colon disorders, such as colon cancer. The color cancer and antibadies to the protesins are useful for the prevention, comply the colon cancer and as for the protesins and cancer and as phyridisatics and research, such as for colonsome identification, and as hybridisation probes. The protesins come also be used to prevent diseases such as neural disorders, immune system disorders, muscular disorders, reproductive disorders, infectious consistent and disorders, wounds, reproductive disorders, infectious consistent and cardiovascular disorders. AAC98764 to AAC98772 and canders used in the exemplification of the present consistent and cardiovascular disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            immunomodulatory; muscular; gynaecological; gastrointestinal; nephrotropic; antiinfective; antibacterial; gene therapy; wound; neural disorder; immune system disorder; muscular disorder; reproductive disorder; gastrointestinal disorder; renal disorder; infectious disease; cardiovascular disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  receptor binding profiles compared to known naturally occurring VEGFs.

The present sequence represents VEGFR-1 binding epitope from human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                proliferative arthritis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 11; Page 1486; 2104pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Colon cancer associated gene sequences, referred to antigens, useful for the treatment, prevention, and disorders such as colon cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rosen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      08-MAR-2000; 2000WO-US05883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200055351-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; colon cancer; colon cancer antigen; diagnosis; detection; identification; cytostatic; cardioactive; neuroprotective; vulnerary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human colon
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB53387 standard; Protein; 105 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (HUMA-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
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DB; AAC98144.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HUMAN GENOME
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CNDEGLESVPTEESNITMQIMRIKPH 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ruben SM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cancer antigen
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                retinopathies, psoriasis. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein sequence SEQ ID NO:927.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
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Pred. No. 2.7e-13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          age-related macular degeneration,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      as colon cancer diagnosis of colon
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          The present invention relates to polypeptides that bind cellular CC receptors for vascular endothelial growth factors (VEGFS), the polypeutides encoding them, and their use for identifying agents that commodulate interactions between VEGFs and their receptors. VEGFs and their receptors. The process of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from the engiogenesis, the process of interactions between VEGF and its creeptors may be used to treat dysfunction of the endothelial cell cregulatory system. Such disorders include cancers, abnormal angiogenesis, the development of cregulatory system. Such disorders include cancers, abnormal angiogenesis, cregulatory system. Such disorders include cancers, abnormal angiogenesis, cregulatory system. Such disorders include cancers, abnormal angiogenesis, creceptor binding profiles compared to known naturally occurring VEGFs. The present sequence represents the polypeptide encoded by human creation of the present sequence represents the polypeptide encoded by human creation.
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                                                                                                                                                                                                                                                                                      Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them -
                                                                                                                                                                                                                                                         Claim 35; Page 182; 261pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         25-FEB-2000;
18-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cardiovascular; VEGF-C; mutant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-FEB-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200162942-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Domain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    psoriasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 angiogenesis; blood vessel;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                                                                                                   2001-536640/59
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                                                                                                                                                                                                                                                                                                                                     AAS12844
                                                                                                                                                                                                                                                                                                                                                                                                             LUDWIG INST CANCER RES. LICENTIA OY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        standard;
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                                                                                                                                                                                                                                                                                                                                                                                  Jeltsch
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2000US-0205331.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein; 105
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "VEGF receptor binding domain"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cancer; proliferative retinopathy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 133; DB 21;
Pred. No. 2.8e-13;
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SS

105

A,

Matches Query Match Sequence

25;

Conservative

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Similarity

96.4**%**; 96.2**%**;

Score 133; DB 22; Pred. No. 2.8e-13; Mismatches

Length 105; Indels

0

Gaps

0

Query Match

22;

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RESULT 6
AAU08411
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                        The present invention relates to polypeptides that bind cellular creceptors for vascular endothelial growth factors (VEGFs), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cells regulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGFs. The present sequence represents the polypeptide encoded by human very very contract clone 12-5.
                                                                                                                                                                                                                                                                                                Claim 36; Page 186-187; 261pp; English.
                                                                                                                                                                                                                                                                                                                             Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-FEB-2000;
18-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-FEB-2001; 2001WO-US06113
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VEGF-C; mutant; mutein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Polypeptide
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                                                                                                                                                                                                                                                                                                                                                                                 AAS12848
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                encoded by human VEGF-A/VEGF-C hybrid clone 12-5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0185205.
2000US-0205331.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
1..102
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Sequence

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RESULT 7
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                        The present sequence represents native human vascular endothelial growth (CC factor (VEGF) 110. VEGF is an angiogenic factor. VEGF proteins are used for the prevention or repair of injury to blood vessels or associated cc nonvascular tissues (served by the blood vessels) and for the prevention are used for the prevention and treatment of this methods may also be used for the prevention and treatment of kidney diseases associated with injury to, or atrophy of, the vasculature of the glomerulus and conterstitium. Conditions which may be treated include haemolytic uremic syndrome, toxic shock syndrome, venom exposure, chemical exposure, thrombosis, preclampsia, thrombotic thrombocytopenia purpura, disseminated intravascular coagulable states, platelet activation or aggregation, thrombosis, preclampsia, thrombotic thrombocytopenia purpura, disseminated intravascular coagulation, sepsis, pancreatis, acute renal fallure, myocardial infarction, ischemic bowel disease, transient ischemic condothalium injury, acute respiratory distress syndrome, toxic alveolar condothalium injury, acute respiratory distress syndrome, toxic acute condothalium injury condothalium injur
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
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26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           blood vessel injury; vascular injury; microvascular angiopathy; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; venom; hypercoagulable state; platelet activation; platelet aggregation; thrombosis; preeclampsia; sepsis; pancreatis; intravascular coagulation; thrombotic thrombocytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury; acute respiratory distress syndrome; pneumonia; pulmonary emboli; birth prematurity disorder; wound; allergy; hypersensitivity; autoimmune disease; organ transplant; focal glomerulosclerosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel methods and compositions for the prevention and treatment microvascular angiopathies by administration of angiogenic facts as vascular endothelial growth factor (VEGF) -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Fig 12; 46pp; English.
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99US-0126406.
99US-0126615.
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Pred. No. 2.8e-13;
        emboli,
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                      CC Administering vascular endothelial growth factor (VGEF) can be used for treating hypertension (especially salt-dependent hypertension) CA Administration of VGEF promotes angiogenesis and/or vascular or CC capillary permeability. The method is also useful in treating CC disorders related to abnormal transport of solutes across endothelial CC cells. Such disorders include the treatment or prevention of solutes; CC disease associated with impaired filtration or excretion of solutes; CC the treatment or prevention of diseases of the central nervous system associated with alterations in cerebrospinal fluid, e.g. stroke, CC meningitis, tumour, infections, and bone growth disorders; treatment or prevention of hypoxia or hypercapnia or fibrosis arising from CC accumulation of fluid secretions in the lungs, e.g. acute respiratory CC distress syndrome, toxic alveolar injury, pneumonia, infections, CC surgical intervention, cystic fibrosis; treatment or prevention of gulmonary dysfunction arising from injury to the pulmonary endothelium, including disorders arising from premature birth, and CC pulmonary hypertension; treatment or prevention of disease arising from disordered transport of fluid and solutes across the intestinal of caretions of acrieves the inflammatory bowel disease, discretions the intestinal of caretions of acrieves the intestinal of the pulmonary treatment or caretions of acrieves the intestinal of the pulmonary treatment or caretions of acrieves the intestinal of the pulmonary treatment or caretions of disease, treatment or caretions of acrieves the intestinal caretions in the pulmonary treatment or caretions of acrieves the intestinal of the pulmonary hypertension; treatment or prevention of disease, treatment or caretions of acrieves the intestinal caretions of the pulmonary hypertension; treatment or prevention of disease, treatment or caretions of acrieves the intestinal caretions of the pulmonary hypertension; treatment or prevention of disease treatment or caretions of the pulmonary hypertensi
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Best Local
epithelium, e. prevention of
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Schreiner GF,
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26-MAR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human vascular endothelial growth factor (hVEGF110).
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96.2%;
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.9e-13;
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                                             The present sequence represents vascular endothelial growth factor (VEGF). The specification describes peptides which bind to an anti-VEGF antibody or which bind to a kinase domain receptor (DR). The peptides inhibit the binding of VEGF to KDR, and inhibit binding of anti-VEGF antibody to VEGF. The peptides are useful for inhibiting angiogenesis and for treating diseases including cancer, diabetic retinopathy, psoriasis, hemangioblastoma, and Kaposi's sarcoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           organ allografts; and treatment of cardiac valve disease. This sequence is the native human vascular endothelial growth factor hVGEF110. The activity of VGEF is mediated by interaction with specific receptors on target tissues, most notably the vasculendothelium. VGEF exists as five different length monomer chains to alternative splicing of the VGEF RNA transcript.
  Sequence
                                                                                                                                                                                                                                                                                                                                     Novel peptides inhibiting binding of vascular endothelial (VEGF) to kinase domain receptor, or inhibiting binding of antibody to VEGF, useful for treating diabetic retinopathy
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                                                                                                                                                                                                                                                            Page
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Matches Query Match Best Local

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                                                                                                                                                                                                                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                          Human; VEGF; vascular endothelial growth factor; VEGF121; VEGF145;
                                                                                                                                                                                                                                                                                                                                                                                       Human VEGF110
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                                                                                                                                                                                                                                                                                                                                                                                                                              AAB50436 standard; Protein; 110 AA
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WO200071713-A1

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18-MAY-2000; 2000WO-US13536.

20-MAY-1999; 99US-0135312.

SCIOS

Pollitt NS, Abraham JA;

WPI; 2001-025162/03

Enhancing biological activity of vascular endothelial growth factor by replacing a Cys residue, for producing variant useful for treating hypertension, stroke, diabetes, lupus, glomerulonephritis, meningitis, pneumonia, infections -

Disclosure; Fig 12; 62pp; English.

uraemic syndrome (HUS) or microvascular angiopathy such as thrombotic microangiopathy (PWA). The VEGF variant is also useful for treatment of essential hypertension in a patient. The variant is useful for treating coronary artery disease and/or peripheral arterial disease, to foster myocardial blood vessel growth and to improve blood flow to the heart. It is useful for the treatment and prevention of kidney diseases associated with injury to, or atrophy of, the vasculature of the glomerulus and content in the treatment and prevention of acute renal failure, myocardial infarction, ischaemic bowel disease, transient ischaemic attacks, stroke, hypoxia, hyporcapnia, focal glomeruloselerosis, amyloidosis, glomerulonephritis, diabetes, systemic lupus erythematosus or chronic hypoxia/atrophy. It is also useful in the preservation or cenhancement of function of organ allografts and xenografts, and for treating disorders related to abnormal transport of solutes across endothelial cells such as meningitis, tumour, infections, disorders of condothelial cells such as meningitis, tumour, infections, disorders of turcia language. The present sequence is given in a specification relating to a method for enhancing the biological activity of a vascular endothelial growth factor (VEGF) originally having a cysteine residue at a position 116 of the 121 amino acid native mature human VEGF. The method comprises eliminating the cysteine residue to produce a VEGF variant. The variant is useful for inducing angiogenesis or vascular remodelling, for prevention or repair of injury to blood vessels, where injury is associated with haemolytic bone growth, acute respiratory distress syndrome, toxic alveolar injury, pneumonia, cystic fibrosis, inflammatory bowel disease, infectious ဝူ cardiac

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RESULT 11
by administering a VEGF in an amount effective to reduce the blood of pressure of a salt-sensitive hypertension patient to a normal crange. The VEGF is preferably hVEGF121 (see AB87629) or a VEGF chat has had its heparin-binding domain modified to render it incapable of binding heparin, e.g. by amino acid alteration. VEGF110 is not one of the preferred VEGF molecules. The method can consider the constant of the preferred VEGF molecules. The method can constant of the constant of the preferred vegF molecules. The method can constant of the constant of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypertension; hypotensive; nephrotropic; cerebroprotective; antibacterial; cytostatic; antialcholic; virucide; vasotro antidiarrhoeic; immunosuppressive; cardiant; antiinflammato
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26-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence is the protein sequence of human vascular endothelial growth factor 110 (hVEGF110). The present invention concerns methods for the treatment of salt-sensitive hypertension
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Fig 11; 30pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New method, useful in treatment of salt-sensitive hypertension, comprises administration of a vascular endothelial growth factor to
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                                                  the protein in circulation, whereas hBEGF165 binds heparin strongly. The product can be used for angiogenesis and re-endothelialisation of inner vascular surfaces in wound healing, e.g. treatment of full-thickness wounds such as dermal ulcers, venous ulcers and diabetic ulcers, burns, in surgery, in balloon angioplasty and for the in vitro culturing of endothelial cells. Hybrid growth factors of pDGF and VEGF can exhibit a mitogenic profile between each factor and can be used for wound healing or as inhibitors of angiogenesis for e.g. preventing the growth of tumours.

VEGF analogues in which CYS residues are substd. are more stable. See also AAQ10791-93; AAQ10796-97; AAQ10806-08 and AAQ11099.

(Updated on 25-MAR-2003 to correct PA field.)
                                                                                                                                                                                                                                                                                                                                                                                            The two forms of VEFG (AAQ10797 and AAQ10917) which arise through different message splicing, have different properties. In partic. hVEGF121 does not bind to heparin leaving more of the protein free to bind to VEGF receptor and increase the half-life and distribution of
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; Fig 7(1-2); 94pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     producing the fa
in wound healing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA encoding vascular endothelial cell growth factor - used for producing the factor for angiogenesis and re-endothelialisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tischer ER,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-DEC-1989;
27-JUL-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-FEB-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO9102058-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bos taurus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bovine vascular endothelial cell growth factor; angiogenesis; wound healing; hVEGF; PDGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human vascular endothelial cell growth factor 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-MAR-2003
08-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAR11385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAR11385 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ascites accumulation in the peritoneum as occurs in the failure o heart, liver and kidney, preservation and enhancement of function of organ allografts, and cardiac valve disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        including
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (CALD ) CALIFORNIA BIOTECHNOLOGY INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                healing;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAQ11099
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     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                110 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (updated)
(first entry)
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89US-0387545
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96.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
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Pred. No. 2.9e-13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A
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                                                                                                                                                                                                                                                                                                                                            27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
                                                                                           The sequence of AAQ44260 contains an open reading frame corresponding to the 165 amino acid human vascular endothelial cell growth factor (hVEGF-165, see AAR38921). Alternate splicing of the sequence gives a shorter coding sequence which encodes the 121 amino acid hVEGF (see AAR42607). The full-length coding sequences can be generated using PCR with human foetal vascular smooth muscle
                                                                    be generated using PCR wpoly-A+ RNA as template. (Updated on 25-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Misc-difference
                                               Sequence
                                                                                                                                                                          Claim 3; Fig 7; 40pp; English.
                                                                                                                                                                                                              Isolated DNA sequences, expression vectors and transformant cells
- used for large scale prodn. of vascular endothelial cell growth
factor, for treating wounds in which neo-vascularisation is
                                                                                                                                                                                                                                                                         WPI; 1993-205302/25.
                                                                                                                                                                                                                                                                                                Abraham JA,
                                                                                                                                                                                                                                                                                                                                                                                            27-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                         US5219739-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Angiogenesis; wound healing; mitogen; vascular endothelial cells; Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human VEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-MAR-2003
28-OCT-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR42607;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR42607
                                                                                                                                                                                                  required
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Misc-difference
                                                                                                                                                                                                                                                                                                                     (SCIO-) SCIOS NOVA INC.
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             Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        standard; Protein; 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CNDEGLECVPTEESNITMQIMRIKPH
                                               121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
 Conservative
                                                                                                                                                                                                                                                                                               Fiddes JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (updated)
(first entry)
                                                                                                                                                                                                                                                                                                                                             89US-0387545.
89US-0450883.
90US-0559041.
                                                                                                                                                                                                                                                                                                                                                                                            90US-0559041.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "inserted amino acid relative to bVEGF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note=
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96.2%;
           96.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Lys 115 of hVEGF-121 is replaced by 44 amino acids encoded by an alternatively spliced exon in hVEGF-165 (see AAR38921)"
                                                                      to correct
                                                                                                                                                                                                                                                                                                Mitchell RL,
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>,</u>
           Score 133; DB 14;
Pred. No. 3.3e-13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 133; DB 12;
Pred. No. 3.3e-13;
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 Mismatches
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                                                                      field
                                                                                                                                                                                                                                                                                                Tischer EG;
                      14;
                      Length 121;
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 Indels
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Matches
                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                             A vaccine for treatment and prevention of diseases caused by vascularisation comprising a cell growth factor or its fragments which stimulate vascular cell proliferation is provided. The vaccine can be used for treating cancers, glaucoma, eye tumours, trachoma, psoriasis, granuloma, hypertrophic scars, post-crystalline fibrosis and senile disk muscular degeneration. A preferred protein for use in the vaccine is human VEGF/VPF121,
          Vascular permeability factor; growth factor; overlapping peptide; monoclonal antibody; hybridoma; cancer.
                                                                                                                                                                                                                                                                                                                    i.e.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      glaucoma; eye tumour; trachoma; pooriasis; granuloma; hypertrophic scar; post-crystalline fibrosis; senile disk muscular degeneration.
                                                 Vascular permeability factor.
                                                                          31-DEC-1996
                                                                                                     AAW03677
                                                                                                                           AAW03677 standard; protein;
                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                   Example;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vaccine for treatment of vascularisation diseases, e.g. cancer comprises peptide derived from vascular endothelial cell growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1996-450932/45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-DEC-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-NOV-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                03-SEP-1996.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VEGF; VPF; vascular endothelial cell growth factor; vascular permeability factor; vaccine; vascularisation; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human VEGF/VPF121 for treatment of vascularisation diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           05-MAR-1997
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                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                    the
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                                                                                                                                                                                                                                           l Similarity
25; Conser
                                                                                                                                                                                                           CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                           CNDEGLECVPTEESNITMQIMRIKPH
                                                                                                                                                                                                                                                                                                                    present sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                Page 6-7; 7pp; Japanese.
                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                         96.4%;
nilarity 96.2%;
Conservative
                                                                          (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
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                                                                          entry)
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                                                                                                                                                                                                                                         Score 133; DB Pred. No. 3.3e 0; Mismatches
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3.3e-13;
ches 1;
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                                                                                                                                                        This is the amino acid sequence of the vascular permeability factor (VPF), a member of the growth factor family. Several VPF types are known having 121, 165, 189 or 206 amino acids. This sequence was used to generate a series of overlapping peptides having 10 residues which were used to raise antibodies against the VPF peptide. The two peptides AAW03678-9 generated the greatest antibody signal against the VPF protein. These clones were used to manufacture hybridomas producing monoclonal antibodies which are useful for diagnosis and treatment of
                                                                                                                                                                                                                                                                                                                        New peptide, useful as antigen for preparing vascular permeability factor monoclonal antibody - is used in treatment agent for cancers and as biochemical reagents
                                                                                                                  Sequence
                                                                                                                                                cancers and other diseases.
                                                                                                                                                                                                                                                                                            Disclosure; Page 10; 13pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-JUL-1996.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JP08169898-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic
                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1996-358508/36.
                                                                                                                                                                                                                                                                                                                                                                                                              (TOAG ) TOA GOSEI CHEM IND LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                           18-OCT-1994;
10-JUN-1994;
                                                                       Local
61
1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                        . Similarity 25; Conserv
                                                                                                                  121 AA;
                                                        96.4%; ilarity 96.2%; Conservative
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94JP-0152805
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                                                           0
                                                        Score 133; DB 17;
Pred. No. 3.3e-13;
0; Mismatches 1;
                                                                                     Length 121;
                                                           Indels
                                                           <u>.</u>
                                                           Gaps
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Search completed: January 30, 2004, 11:40:08 Job time: 36.725 secs

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Result
No.
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Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Minimum DB
Maximum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        seq length: 0 seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Issued Patents AA:*
1: /cgn2 6/ptodata/1
2: /cgn2 6/ptodata/1
3: /cgn2 6/ptodata/1
4: /cgn2 6/ptodata/1
5: /cgn2 6/ptodata/1
6: /cgn2_6/ptodata/1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-266-543-7
138
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         96.4
96.4
96.4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/1/iaa/backfiles1.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd
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                                                          US-09-037-983C-15
US-09-037-983C-17
US-09-037-983C-16
US-09-519-476-2
US-08-784-551C-2
US-08-784-768-4
US-09-037-983C-2
US-09-313-09-034A-4
US-09-313-299-4
US-09-244-883-24
US-09-244-883-24
US-09-244-883-24
US-09-244-883-24
US-08-882-816-3
US-08-882-816-3
US-08-882-816-3
US-08-882-816-3
US-08-882-816-3
US-08-882-816-3
US-08-882-816-3
US-08-882-816-3
US-08-882-816-3
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US-09-392-932-11

US-09-574-708A-11

US-09-822-270-17
       US-09-244-583-28
US-08-567-200A-2
US-08-807-992B-2
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Sequence 15, Appl
Sequence 17, Appl
Sequence 2, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 4, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 4, Appli
Sequence 2, Appli
Sequence 24, Appli
Sequence 3, Appli
Sequence 28, Appli
                                                                                                                                                                                                                                                                                                                                                                                                Sequence 3; Appli
Sequence 11, Appl
Sequence 17, Appl
Sequence 17, Appl
Patent No. 5194596
Patent No. 5219739
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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28
133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133
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232	232	231	215	215	215	215	214	213	208	191	191	191	191	191	191	191	191
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US-08-824-996-9	US-08-999-811-7	PCT-US96-09001-10	5240848-7	US-09-699-769-49	US-08-586-039B-49	US-08-807-992B-3	5240848-11	US-09-574-708A-8	US-09-244-583-26	5332671-4	US-08-802-052B-2	US-09-574-708A-6	US-08-882-816-2	US-09-355-700-56	US-09-392-932-3	US-08-795-430-56	US-08-691-794-2
9	7, 1	Sequence 10, Appl	Patent No. 5240848	49,	49,	Sequence 3, Appli	•		Sequence 26, Appl	57	'n	Sequence 6, Appli	e 2,	56,	Sequence 3, Appli	Sequence 56, Appl	Sequence 2, Appli

ALIGNMENTS

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RESULT 1
US-08-691-794-3
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                                                                                                                                       APPLICATION NUMBER: US 60/002,827
FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/567,200
FILLING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-63758/WHI
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION: 0415 781-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: United States

ZIP: 94111-4187

COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: IBM PC compatable
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Ve:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/691,794
FILING DATE: 02-AUG-1996
CLASSIFICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
                                                                   TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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APPLICANT:
APPLICANT:
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APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 45
CORRESPONDENCE ADDRESS:
ADDRESSES: Flehr, Hohbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: Variants of TITLE OF INVENTION: Growth Factor TITLE OF INVENTION: Production
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: San Francisco
                                            LENGTH:
               4: 109 amino acids
amino acid.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Li, Bing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ferrara, Napoleone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Keyt, Bruce A
unknown
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Variants of Vascular Endothelial Cell Growth Factor, Their Uses, and Processes for their
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Brian C.
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                                                                                                                                                                                                                           A-63758/WHD
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SOFTWARE: FASTSEQ for Wi
SEQ ID NO 11
LENGTH: 110
TYPE: PRT
ORCANISM: Homo sapiens
US-09-574-708A-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Schreiner, George F.

APPLICANT: Johnson, Richard J.

TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN FILE REFERENCE: SCIOS.002A

CURRENT APPLICATION NUMBER: US/09/392,932

CURRENT FILING DATE: 1999-09-09

EARLIER APPLICATION NUMBER: 60/099,694

EARLIER FILING DATE: 1998-09-09

NUMBER OF SEQ ID NOS: 11
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                                             Query Match
Best Local Similarity
""" ches 25; Conserve
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US-09-574-708A-11
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US-09-392-932-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; MOLECULE TYPE: US-08-691-794-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-392-932-11
                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 11, Application US/09574708A Patent No. 6475796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: FastSEQ for Windows Version SEQ ID NO 11
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                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
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                                                                                                                                                                                                                                         FILE REFERENCE: SCIOS004A
CURRENT APPLICATION NUMBER: US/09/574,708A
CURRENT FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/135,312
PRIOR FILING DATE: 1999-05-20
                                                                                                                                                                                                                                                                                                                        APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth factor
TITLE OF INVENTION: variants
                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                          APPLICANT: N. Stephen Pollitt APPLICANT: Judith A. Abraham
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Homo Sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ENGTH: 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
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5. 6352975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                            FastSEQ for Windows Version 4.0
CNDEGLECVPTEESNITMQIMRIKPH 86
                     CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CNDEGLECVPTEESNITMQIMRIKPH 86
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                                                              Conservative
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Pred. No. 9.9e-15;
                                                            Score 133; DB 4;
Pred. No. 9.9e-15;
0; Mismatches 1
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                                                                                           Length 110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 110;
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                                                              Indels
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RESULT 5
5194596-19
;PATENT NO. 5194596
; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN
;C.;MITCHELL, RICHARD L.
;TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
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                                S
                                                                                                                                           5194596-19
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; OTHER INFORMATION: SYNTHETIC PEPTIDE US-09-822-270-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 4
US-09-822-270-17
                                                                                                                                                                                                                                                                                     GROWTH FACTOR
NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
                                                                                                                                                                             FILING DATE:
SEQ ID NO:19:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: PatentIn version 3.1 SEQ ID NO 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 17, App.
Sequence 17, App.
Sequence 17, App.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                      Matches
                                                                                                       Query Match
                                                                                       Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: US 60/193,396
PRIOR FILING DATE: 2000-03-31
NUMBER OF SEQ ID NOS: 17
SOFTWARE: Datary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: PERRET, GERARD
APPLICANT: MAZIE, JEAN-CLAUDE
APPLICANT: PLOUET, JEAN
APPLICANT: VASSAY, ROGER
APPLICANT: VASSAY, ROGER
TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MED.A
TITLE OF INVENTION: ANGIOGENESIS, POLYNUCLEOTIDES ENCODING SAID PEPTIDES AND METHOWS
FILE REFERENCE: 205606US0
CURRENT APPLICATION NUMBER: US/09/822,270
CURRENT FILING DATE: 2001-04-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: TOURNAIRE, ROSELYNE APPLICANT: DEMANGEL, CAROLINE APPLICANT: DERBIN, CLAUDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: ARTIFICIAL SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 110
                                                                                                                                                                                                   PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/07/450,883 FILING DATE: 14-DEC-1989
                                                                                                                                                                LENGTH: 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
61
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                                  1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                       Similarity
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                                                                        Conservative
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                                                                                      96.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         96.4%;
                                                                  Score 133; DB 6; Length 121; Pred. No. 1.1e-14; 0; Mismatches 1; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 133; DB 4;
Pred. No. 9.9e-15;
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                                                                    Gaps
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RESULT 6
5219739-20
;PATENT NO. 5219739
;PAPPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES,
;JOHN C.;MITCHELL, RICHARD L.
;TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND

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US-09-037-983C-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO:20:
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Best Local S
Matches 25
                                                                                                                                                                                                                                                                                Sequence 17, Application US/09037983C Patent No. 6583276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn version 3.1 SEQ ID NO 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 15,
APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, Israel
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Dise
FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT APPLICATION NUMBER: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06.
NUMBER OF SEQ ID NOS: 17
COMMENT OF SEQ ID NOS: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Anglogenic Factor and Use Thereof in Treating Cardiovascular Dise
FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
CURRENT FILING DATE: 1998-03-11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Newfeld, Gera APPLICANT: Keshet, Eli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/07/55
FILING DATE: 27-JUL-1990
PROOR APPLICATION DATA;
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ENGTH: 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 40 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
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Pred. No. 1.3e-14;
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US-09-519-476-2
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US-09-519-476-2
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; ORGANISM: Homo sapiens
US-09-037-983C-16
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-037-983C-17
                                                     Query Match
Best Local S
Matches 25
                                                                                                                                                                                                                    Sequence 2, Application US/09519476
Patent No. 6506884
GENERAL INFORMATION:
APPLICANT: MINTZ, List et al.
TITLE OF INVENTION: NOVEL NUCLEIC ACID AND AMINO ACID SEQUENCES
FILE REFERENCE: 2786-0149P
CURRENT APPLICATION NUMBER: US/09/519,476
CURRENT FILING DATE: 1090-03-09
PRIOR APPLICATION NUMBER: IL128852
PRIOR PLING DATE: 1999-03-05
RUMBER OF SEQ ID NOS: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn version 3.1
SEQ ID NO 16
LENGTH: 138
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Best Local Similarity
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Best Local Similarity 96.2%;
Matches 25; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Poltorak, Zoya
ITITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Dise
FILE REFERENCE: 000274-0009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Newfeld, Ger
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky,
                                                                                                                                                         LENGTH: 14
TYPE: PRT
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                                                                                                                                                                         141
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1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                       l Similarity
25; Conserv
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Vlodavsky, is...
Voya
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                                                                     Score 133; DB 4;
Pred. No. 1.4e-14;
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Pred. No. 1.3e-14;
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Pred. No. 1.3e-14
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                                                       Mismatches
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                                                                                     Length 141;
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CNDEGLECVPTEESNITMQIMRIKPH 112

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RESULT 12
US-09-392-932-2
; Sequence 2, Applic
; Patent No. 6352975
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Tocal Similarity
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                                                                                                                         GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHOUS OF TREATING HYPERTENSION AND
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
FILE REPERENCE: SCIOS.002A
CURRENT APPLICATION NUMBER: US/09/392,932
CURRENT FILING DATE: 1999-09-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: Cohen, Herbert
REGISTRATION UNMBER: 25,109
REFERENCE/DOCKET NUMBER: 0270
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 463-7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 145 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OPERATING SYSTEM: IBM P.C. DOS 5.0
SOFTWARE: FASTSEQ for Windows 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/784,551C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (202)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: U
ZIP: 20006
                                                                                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS: single
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                                                                                                                                                            Application US/09392932
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Suite 1000
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Eli Keshet
Israel Vlodavsky
                                                                                                                                                                                                                                                                                                                           Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              463-6915
                                                                                                                                                                                                                                                                                                                                          96.48;
96.28;
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                                                                                                                                                                                                                                                                                                                           0; Mismatches
                                                                                                                                                                                                                                                                                                                                            Score 133; DB 3;
Pred. No. 1.4e-14;
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-574-708A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-574-708A-4
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; TYPE: PRT
; ORGANISM: Homo Sapiens
US-09-392-932-2
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE:
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 4, Apr -- No. 647579
                                                                        SEQ ID NO 2
                                                                                                                                                       APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, Israel
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
APPLICANT: Poltorak, Zoya
APPLICANT: Poltorak, Zoya
APPLICANT: OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Dise
FILE REFERENCE: 000274-00009
FILE REFERENCE: 000274-00009
                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                       Sequence 2, Application US/09037983C Patent No. 6583276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
TYPE: PRT
ORGANISM: Homo sapiens
-09-037-983C-2
                                                                                                                             FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILE REFERENCE: SCIOSO04A
CURRENT APPLICATION NUMBER: US/09/574,708A
CURRENT FILING DATE: 2000-05-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EARLIER APPLICATION NUMBER: 60/099,694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: PRIOR FILING DATE: 1999-0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EARLIER FILING DATE: 1998-09-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Vascular TITLE OF INVENTION: variants
                                                                                            SOFTWARE:
                                                                                                               NUMBER OF SEQ ID NOS:
                                                    ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
les 25; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 CNDEGLECVPTEESNITMQIMRIKPH 86
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                                                      145
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                                                                                            PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CNDEGLESVPTEESNITMQIMRIKPH
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96.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 133; DB 4;
Pred. No. 1.4e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 133; DB 4;
Pred. No. 1.4e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 145
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Search completed: January 30, 2004, 11:47:52 Job time : 11.0667 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: Wordperfect version 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,992B
FILING DATE: MATCh 3, 1997
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 99,693
REFERENCE/DOCKET NUMBER: BIS-033
REFERE
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US-08-807-992B-1
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Best Local Similarity
Matches 25; Conserv
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APPLICANT: Senger, Donald R
APPLICANT: Dvorak, Harold F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 3: CORRESPONDENCE ADDRESS:
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TITLE OF INVENTION:
TITLE OF INVENTION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: P.O. Bo
CITY: Magnolia
STATE: Massach
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: US
ZIP: 01930
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blood vessel
                                                                                                                                                                                                                                                                                                96.4%; Score 133; DB 3; Length 147; 96.2%; Pred. No. 1.4e-14; tive 0; Mismatches 1; Indels
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Copyright

GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd

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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                               Score
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seq length: 2000000000
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1: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep:*

5: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*

6: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*

7: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*

8: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*

9: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/US09B_PUBCOMB.pep:*

11: /cgn2_6/ptodata/2/pubpaa/US09B_PUBCOMB.pep:*

12: /cgn2_6/ptodata/2/pubpaa/US09B_PUBCOMB.pep:*

13: /cgn2_6/ptodata/2/pubpaa/US09B_PUBCOMB.pep:*

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17: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*

18: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*

18: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*

18: /cgn2_6/ptodata/2/pubpaa/US00_NEW_PUB.pep:*
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Match
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                       10 US-09-795-006A-51

10 US-09-795-006A-59

11 US-09-795-299-927

12 US-09-822-270-17

12 US-10-342-371-17

12 US-10-392-931-10

12 US-10-418-529-11

12 US-10-418-529-11
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US-10-086-623-14
US-10-260-539-14
US-09-832-355A-2
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Sequence 13, Appl
Sequence 14, Appl
Sequence 14, Appl
Sequence 2, Appli
Sequence 527, Appl
Sequence 51, Appl
Sequence 597, Appl
Sequence 17, Appl
Sequence 17, Appl
Sequence 17, Appl
Sequence 11, Appl
Sequence 10, Appl
Sequence 10, Appl
Sequence 11, Appl
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4 5	44	43	42	41	40	39	38	37	36	35	34	u u	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133
96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	•	96.4	96.4	96.4	٠	96.4	96.4
191	191	191	190	188	171	165	165	164	162	154	154	150	147	147	147	147	147	145	145	145	145	145	141	127	127	127	126	121	110
10	10	9	10	12			12	12	H	11	ב	11	15	14	12	12	12	15	14	12	12	12	15	10	5	10	10	11	15
US-09-907-007-2	US-09-932-451A-2	US-09-349-954A-2	US-09-813-398-8	US-10-293-157-28	US-09-812-133-2	-10-200-0	-10-318-	US-10-293-157-24	US-09-832-355A-60	US-09-832-355A-62	US-09-832-355A-59	US-09-832-355A-61	US-10-268-447-2	US-10-083-817-1	ŝ	-931-	US-10-346-802-4	4	US-10-083-817-2	US-10-418-529-4		US-10-319-828-2	US-10-298-794-2	US-09-795-006A-91	US-09-795-006A-83	US-09-795-006A-47	-09-795-006A-	9-832-355A-	US-10-268-447-11
'n	e 2	Ņ	Sequence 8, Appli	e 2	Sequence 2, Appli	'n	_	24,	O	e 62,	59,	61,	ν,	۳,	e 2,	'n	4	4	Sequence 2, Appli	4	e 4,	e 2,	ν,	e 91,	Sequence 83, Appl	47,	e 43,	Sequence 1, Appli	Sequence 11, Appl

ALIGNMENTS

RESULT 1 US-10-139-876-13

Sequence 13, Application US/10139876 Publication No. US20020123481A1 GENERAL INFORMATION:

Same

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US-10-139-876-13
                                                                                                                                                                        TYPE: PRT
ORGANISM: unknown
FEATURE:
OTHER INFORMATION: mammalian
FFATURE:
NAME/KEY: PEPTIDE
LOCATION: (1)...(47)
OTHER INFORMATION: segment of VEGF
                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: GB9519928.7
PRIOR FILING DATE: 1995-09-29
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 13
LENGTH: 47
                                                                                             Query Match
Best Local
                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Oliviero, Salvatore
TITLE OF INVENTION: C-Fos Induced Growth Factor (Figf) And Dna Encoding
FILE REFERENCE: 35784/105172
CURRENT APPLICATION NUMBER: US/10/139,876
CURRENT FILING DATE: 2002-05-07
PRIOR APPLICATION NUMBER: 09/043,476
PRIOR FILING DATE: 1998-03-18
PRIOR APPLICATION NUMBER: PCT/IB96/0113
PRIOR PILING DATE: 1996-09-30
PRIOR APPLICATION NUMBER: GB9612368.2
PRIOR PILING DATE: 1996-09-30
PRIOR PILING DATE: 1996-08-13
PRIOR FILING DATE: 1996-08-13
PRIOR FILING DATE: 1996-08-13
PRIOR FILING DATE: 1996-08-13
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1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                   l Similarity
25; Conserval
                                                                   96.4%;
ilarity 96.2%;
Conservative
                                                                   <u>,</u>
                                                                   Score 133; DB 14;
Pred. No. 1.2e-13;
0; Mismatches 1;
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CNDEGLECVPTEESNITMQIMRIKPH

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RESULT 3
US-10-260-539-14
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                                                                                                                                                                                                                                                                                  Sequence 14, App
Publication No.
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Publication No. US20020164710A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                  APPLICANT: PONTEN, Annica
APPLICANT: UUTELA, Marko
APPLICANT: ALITALO, Kari
APPLICANT: OESTMAN, Arne
APPLICANT: HELDIN, Carl-Henrik
TITLE OF INVENTION: PLATELET DERIVED GROWTH FACTOR
FILE REFERENCE: 1064/44833C2
             CURRENT APPLICATION NUMBER: US/10/260,539
CURRENT FILING DATE: 2002-10-01
PRIOR APPLICATION NUMBER: US/10/086,623
                                                                                                                                                                                                                          APPLICANT:
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CURRENT FILING DATE: 2000-03-04
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APPLICANT: OESTWAN, Arne
APPLICANT: HELDIN, Carl-Henrik
TITLE OF INVENTION: PLATELET DERIVED GROWTH FACTOR D,
FILE REFERENCE: 1064/44833C2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 42
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APPLICANT: AASE, Karin
                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: misc feature
OTHER INFORMATION: PDGF/VEGF-homology domain of VEGF-165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
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LENGTH: 79
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 1999-11-10
APPLICATION NUMBER: US 09/691,200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 2000-10-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 1999-10-05
APPLICATION NUMBER: US 09/438,046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RILING DATE: 1999-08-26
APPLICATION NUMBER: US 60/157,108
FILING DATE: 1999-10-04
APPLICATION NUMBER: US 60/157,756
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25;
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PONTEN, Annica
UUTELA, Marko
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; Pred. No. 2.3e
0; Mismatches
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2.3e-13;
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                                                                                           DNA CODING
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                                                  US-09-925-299-927
Sequence 927, Application US/09925299
Patent No. US20020055627A1
GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies
FILE REFERENCE: PA102
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CURRENT APPLICATION NUMBER: US/09/925,299
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05883
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TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                           53
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PRIOR APPLICATION NUMBER: US 60/150,604
PRIOR FILING DATE: 1999-08-26
PRIOR APPLICATION NUMBER: US 60/157,108
PRIOR FILING DATE: 1999-10-04
PRIOR APPLICATION NUMBER: US 60/157,756
PRIOR FILING DATE: 1999-10-05
PRIOR FILING DATE: 1999-11-10
PRIOR FILING DATE: 1999-11-10
                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Kovesdi, Imre
APPLICANT: Kovesdi, Imre
APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
FILE REFERENCE: 205654
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SEQ ID NO 14 ,
LENGTH: 79
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 96.4%;
Best Local Similarity 96.2%;
                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
SOFTWARE: PatentIn version 3.0
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NUMBER OF SEQ ID NOS: 42
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PRIOR FILING DATE: 1998-11-10
PRIOR APPLICATION NUMBER: US 60/113,997
PRIOR FILING DATE: 1998-12-28
                                                                                                                                                                                     LENGTH: 101
TYPE: PRT
ORGANISM: Homo sapiens
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NAME/KEY: misc_feature
OTHER INFORMATION: PDGF/VEGF-homology domain of VEGF-165
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US 09/691,200
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                     1 CNDEGLESVPTEESNITMQIMRIKPH 26
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CNDEGLECVPTEESNITMQIMRIKPH 78
                                                                                      Conservative
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                                                                                                       96.4%;
96.2%;
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                                                                                                         Score 133; DB 11
Pred. No. 3.1e-13
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Pred. No. 2.3e-13
                                                                                  Mismatches
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                                                                                                                             DB 11;
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US-09-795-006A-59

; Sequence 59, Application US/09795006A
; Patent No. US20020151680A1
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US-09-795-006A-51
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 51, Application UPatent No. US20020151680A1
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Best Local Similarity
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             SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 59
                                                                 APPLICANT: Alitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
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PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS FILE REFERENCE: 28967/35977B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/795,006A CURRENT FILING DATE: 2001-02-26
                                                  PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
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NUMBER OF SEQ ID NOS: 1556
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LENGTH: 105
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96.2%;
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96.2%;
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Pred. No. 3.3e-13;
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Pred. No. 3.3e-13;
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Sequence

GENERAL

INFORMATION

TOURNAIRE, ROSELYNE DEMANGEL, CAROLINE

APPLICANT:

APPLICANT:

DERBIN, CLARED PERRET, GERARD MAZIE, JEAN-CLAUDE

APPLICANT:

APPLICANT:

APPLICANT:

Sequence 17, Application US/09822270 Patent No. US20020068697A1

SOFTWARE: PatentIn version 3.1 SEQ ID NO 17

TYPE: ENGTH: PRT

110

FEATURE:
OTHER INFORMATION: SYNTHETIC PEPTIDE ORGANISM: ARTIFICIAL SEQUENCE NUMBER OF SEQ ID NOS: 17

FILE REFERENCE: 205060US0
CURRENT APPLICATION NUMBER: US/09/822,270
CURRENT FILING DATE: 2001-04-02
PRIOR APPLICATION NUMBER: US 60/193,396
PRIOR FILING DATE: 2000-03-31

APPLICANT: VASSAY, ROGER
TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MEDIA
TITLE OF INVENTION: ANGIOGENESIS, POLYNUCLEOTIDES ENCODING SAID PEPTIDES AND METHODS

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RESULT 9
US-09-822-270-17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-925-299-927
                                                                                                                                                                                                                                         SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 927
LENGTH: 105
TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 96.4%;
Best Local Similarity 96.2%;
Matches 25; Conservative
                                                                                                                                       Matches
                                                                                                                                                     Best Local
                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                      APPLICANT: ROSen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins
FILE REFERENCE: PA102
CURRENT APPLICATION NUMBER: US/09/925,299
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05883
PRIOR FILING DATE: 2000-03-08
                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: 60/124,270 PRIOR FILING DATE: 1999-03-12 NUMBER OF SEQ ID NOS: 1556
                                                                                                                                                                                                                         ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
ORGANISM: Artificial Sequence
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25; Conserv
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o. US20030040617A9
                                                                                                                                       Conservative
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Pred. No. 3.3e-13;
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Pred. No. 3.3e-13
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SOFTWARE: F
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                                                                                                                                           APPLICANT: University of Washington TITLE OF INVENTION: TREATMENT OF MICROVASCULAR ANGIOPATHIES FILE REFERENCE: SCIOS.003A
CURRENT APPLICATION NUMBER: US/10/392,931
CURRENT FILING DATE: 1999-09-09
PRIOR APPLICATION NUMBER: 60/099694
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                                                   PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/126615
PRIOR FILING DATE: 1999-03-27
                                                                                                                                                                                                                                                               APPLICANT: Schreiner, George F. APPLICANT: Johnson, Richard J. APPLICANT: Scios, Inc.
                                   NUMBER OF SEQ ID NOS:
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PRIOR FILING DATE: 2000-03-31
NUMBER OF SEQ ID NOS: 17.
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CURRENT FILING DATE: 2003-01-15
PRIOR APPLICATION NUMBER: US/09/822,270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MEDIATITLE OF INVENTION: ANGIOGENESIS, POLYNUCLEOTIDES ENCODING SAID PEPTIDES AND METHODS FILE REFERENCE: 205060US0
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                                                                                                                                 FILING DATE: 1998-09-09
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                   FastSEQ for Windows Version
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lo. US20030171289A1
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Pred. No. 3.5e-13;
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Pred. No. 3.5e-13;
0; Mismatches 1;
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US-10-418-529-10
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Best Local Similarity
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APPLICANT:
                                                                    PRIOR APPLICATION NUMBER: 60/099694
PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/126615
PRIOR FILING DATE: 1999-03-27
PRIOR FILING DATE: 1999-03-27
                                                                                                                                                                                    APPLICANT: University of Washington
TITLE OF INVENTION: TREATMENT OF ECLAMPSIA AND PREECLAMPSIA
FILE REFERENCE: SCIOS.003C1
CURRENT APPLICATION NUMBER: US/10/418,529
CURRENT FILING DATE: 2003-04-16
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PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/126615
PRIOR FILING DATE: 1999-03-27
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CURRENT APPLICATION NUMBER: US/10/392,931
CURRENT FILING DATE: 1999-09-09
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TITLE OF INVENTION: TREATMENT OF MICROVASCULAR ANGIOPATHIES
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                                   PRIOR APPLICATION NUMBER: 09/392931 PRIOR FILING DATE: 1999-09-09
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                   SEQ ID NOS:
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Pred. No. 3.5e-13;
0; Mismatches 1.
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Pred. No. 3.
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3.5e-13;
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; SEQ ID NO 11 .
; LENGTH: 110
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-418-529-11
                                                     APPLICANT: Schreiher, George F.
APPLICANT: Johnson, Richard J.
FITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN FILE REFERENCE: SCIOS.002C1
CURRENT APPLICATION NUMBER: US/10/083,817
CURRENT FILING DATE: 2002-02-26
PRIOR APPLICATION NUMBER: 60/099,694
PRIOR APPLICATION NUMBER: 60/099,694
PRIOR APPLICATION NUMBER: 09/392,932
PRIOR FILING DATE: 1998-09-09
PRIOR FILING DATE: 1999-09-09
PRIOR FILING DATE: 1999-09-09
NUMBER OF SEQ ID NOS: 11
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PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/126615
PRIOR FILING DATE: 1999-03-27
PRIOR APPLICATION NUMBER: 09/392931
PRIOR FILING DATE: 1999-09-09
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LENGTH: 110
TYPE: PRT
ORGANISM: Homo sapien
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Best Local Similarity
Matches 25; Conserv
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Best Local Similarity 96.2
Matches 25; Conservative
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 11
LENGTH: 110
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Publication No.
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APPLICANT: University of Washington
TITLE OF INVENTION: TREATMENT OF ECLAMPSIA AND PREECLAMPSIA
FILE REFERENCE SCIOS.003C1
CURRENT APPLICATION NUMBER: US/10/418,529
CURRENT FILING DATE: 2003-04-16
PRIOR APPLICATION NUMBER: 60/099694
PRIOR APPLICATION NUMBER: 60/099694
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ALIGNMENTS

	RESULT 1
	A41551
	vascular endothelial growth factor 206 precursor - human N:Alternate names: vascular permeability factor
	N;Contains: vascular endothelial growth factor 121 (VEGP 121); VEGF 165; VEGF 189; VEGF
	C;Species: Homo sapiens (man) C;Date: 28-Aug-1992
	C;Accession: A41551; C41551; B41551; A40454; B40454; C40454; A40079; A40080; JQ1463; JQ1
	A;Title: The vascular endotherial growth ractor ramily: identification of a rourth molec A;Reference number: A41551; MUID:92168017; PMID:1791831
	A;Accession: A41551
	A;Molecule type: mRNA A.Residines: 1-272 <muii)< td=""></muii)<>
rinted,	A;Cross-references: GB:S85192; NID:q246155; PID:q246156
	A;Accession: C41551
	A;Status: nucleic acid sequence not snown
	A; Residues: 1-140; N', 183-232 <hou2></hou2>
3	A;Accession: B41551
	A:Molecule type: mRNA
endotheli	A; Residues: 1-141,227-232 <hou></hou>
endotheli	R;Tischer, E., Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C.; Ab
endotheli	A;Title: The human gene for vascular endothelial growth factor. Multiple protein forms a
endotheli	A40454; MUID:91268072; PMID:1711045
cular end	A;Accession: A40454
rived vas	A;MOLECULE TYPE: UNA A:Residues: 1-165 183-232 <tii></tii>
endotheli	A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63976; GB
growth f	A;MCCEBIUM: BYOYSY A;MCCEBIUM: BYOYSY A;MCCEBIUM: BYOYSY
growth f	A;Residues: 1-140,'N',183-232 <ti2></ti2>
endotheli	A;Cross-reterences: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63977; GB:M63977; GB:M63978; GB
cal prote	A;ACCEBBION: C40454 A;Molecule type: DNA
cal prote	A;Residues: 1-141,227-232 <ti3></ti3>
n resista	A;CIOSS=TELETENCES: GB:M639/1; GB:M639/2; GB:M639/4; GB:M639/4; GB:M639/5; GB:M639/6
cal prote	Science 246, 1309-1312, 1989
rotein F1	A/Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF.
cal prote	A;Reference number: A40079; MUID:90069609; PMID:2479987
cal prote	A;Status: not compared with conceptual translation
ein - yea	A; Molecule type: mRNA
cal prote	A;Residues: 1-165,183-232 <kec>- A;Residues: 1-165,183-232 <kec>- A:Gross-references: GR:M2728: NTD:G140100: DTDN:AAA36807 1: DTD:G140101</kec></kec>
cal prote	R; Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
pili asem	
age relat	A;Title: Vascular endothelial growth factor is a secreted anglogenic mitogen.

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R;Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
Biochim. Biophys. Acta 1260, 235-238, 1995
A;Title: Nucleotide sequence and expression of the porcine vascular endothelial A;Reference number: S52130; MUID:95143284; PMID:7841203
A;Accession: S52130
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vascular endothelial growth factor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
C;Accession: S52130
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A;Residues: 27-36;43-49,'R';72-76,'Q',78-81;59-71 <CON>
C;Comment: The most common of several alternatively spliced
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A;Title: Human vascular permeability factor. Isolation from A;Reference number: A34492; MUID:90062112; PMID:2584205
A;Accession: A34492
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Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
A;Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial A;Reference number: JQ1463; MUID:92231879; PMID:1567395
A;Accession: JQ1463; MUID:92231879; PMID:1567395
                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: mRNA
A; Residues: 1-190 <SHA>
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A; Residues: 1-140,'N', 183-232 <WEI>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;1-26/Domain: signal sequence #status predicted <SIG>;101/Binding site: carbohydrate (Asn) (covalent) #sta
                                                                                                                                                                                                                                                                                                                                      Cross-references: GB:X81380; NID:g587559; PIDN:CAA57143.1; PID:g587560
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25; Conserv
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                                                                             CNDEGLESVPTEESNITMQIMRIKPH 26
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96.2%;
                                                                                                                                                                                                       92.0%; Score 127; 92.3%; Pred. No.
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Pred. No. 3e-13;
0; Mismatches
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cell
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A;Molecule type: protein
A;Residues: 27-38 <ROS>
C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; glycoprotein; mik:
                                                                                                                                                                                                                                                                                         A;Reference number: A61029; MUID:91197543; PMID:2085441
A;Accession: A61029
                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: mRNA
A; Residues: 1-116; ER, (119-190 < CLA>
A; Cross-references: GB: M95200; NID: g202350; PIDN: AAA40547.1;
A; Note: sequence extracted from NCBI backbone (NCBIN: 110665,
A; Note: sequence extracted from NCBI backbone (NCBIN: 110665,
A; Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Title: Expression of vascular endothelial growth factor during embryonic angiogenesis A;Reference number: A44881; MUID:92274860; PMID:1592003 A;Accession: B44881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Note: sequence extracted from NCBI backbone (NCBIN:107622, R;Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M. J. Biol. Chem. 267, 16317-16322, 1992
A;Title: Vascular endothelial growth factor. Regulation by ce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: mRNA
A; Residues: 1-190 <BRE>
A; Cross-references: GB:S38083; NID:g249858; PIDN:AAB22253.1;
A; Experimental source: embryo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
C;Accession: B44881; A43351; A61029
R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Reference number: A43351; MUID:92355593; PMID:1644816 A;Accession: A43351
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                                                                                                           Matches
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86
                                                    1 CNDEGLESVPTEESNITMQIMRIKPH 26
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                                                                                                           Conservative
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                                                                                                                                        Score 122; DB 2; Length 190; Pred. No. 1.3e-11;
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NCBIP:110675)
Folkman, J.
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A;Molecule type: mRNA A;Residues: 1-214 <BRE> A;Cross-references: GB:S37052; NID:g249856; PIDN:AAB22252.1; A;Experimental source: embryo A;Note: sequence extracted from NCBI backbone (NCBIN:104677, C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence C;Date: 03-Feb-1994 #text_change
C;Accession: A44881; C44881; A60932; S52136
R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W. Development 114, 521-532, 1992 A;Title: Expression of vascular endothelial growth factor during embryonic angiogenesis A;Reference number: A44881; MUID:92274860; PMID:1592003 A;Accession: A44881 vascular endothelial growth factor-3 precursor - mouse $N_{\rm F}$ Contains: vascular permeability factor 08-Oct-1999

PID:g249857

NCBIP: 104678)

P.C.,

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A;ACCESSION.
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 1-140,209-214 <BR2>
A;Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1; PID:g249861
A;Cross-references: GB:S38100; NCBI backbone (NCBIN:107624, NCBIP:107625) A;Reference number: A60932; MUID:91079755; PMID:2258694
A;Acession: A60932 A; Molecule type: I A;Note: sequence extracted from NCBI backbone (NCBIN:1076 R;Clauss, M.; Gerlach, M.; Brett, J.; Wang, J. Exp. Med. 172. 1535-1545, 1990
A;Title: Vascular permeability factor: a tumor-derived po protein

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C;Species: Bos primigenius taurus (cattle)
C;Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
C;Accession: A33787
R;Tischer, E.; Gospodarowicz n. wir-...
                                                                                                                                                                                                                                                                                                 ovine vascular endothelial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep) C;Date: 13-Jan-1996 #sequence_revision 01-War-1996 #text_change 05-C;Accession: S57956 C;Accession: S7956 R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M. submitted to the EMBL Data Library, July 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa, R.
Biochim. Biophys. Acta 1224, 365-370, 1994
A;Title: Enhanced expression of multiple forms of VEGF is associated with spontaneous A;Reference number: SS2136; MUID:95101726; PMID:7803491
A;Accession: S52136
A;Status: preliminary
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A;Title: Vascular endothelial growth factor: a new member of the platelet-derivence.
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A; Residues: 1-146 < RED>
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A; Accession: S57956
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A;Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Reference number: A33787; MUID:90121225; PMID:2610687
A;Accession: A33787
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                                                                                                                                                                                                                                      A;Status:
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Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homodimer;

1-26/Domain: signal sequence #status predicted <SIG>

27-214/Product: vascular endothelial growth factor-3 #status experimental <MAT>
                                                                                                                                                                       Cross-references: EMBL:X89506; NID:g899350; PIDN:CAA61677.1; PID:g899351
                                                                                      Matches
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Best Local
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98
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Similarity 88.5%;
23; Conservative
                                                                                                          Similarity
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                             CNDEGLESVPTEESNITMQIMRIKPH
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CNDESLECVPTEEFNITMQIMRIKPH 111
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                                                                                   Conservative
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88.5%;
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Pred. No. 1
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Pred. No. 1
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Pred. No. 1.1e-11;
0; Mismatches 3;
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                                                                                                          1.4e-11;
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RESULT 7

RESULT 9

vascular endothelial growth factor - qu
C;Species: Phasianidae gen. sp. (quail)
C;Date: 13-Sep-1996 #sequence_revision
C;Accession: I51295

quail (fragment)

13-Sep-1996 #text_change

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vascular endothelial growth factor precursor (version 2) - bovine C;Species: Bos primigenius taurus (cattle) C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999 C;Accession: B40080; B33787; A3325 R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N. Science 246, 1306-1309, 1989 A;Reference endothelial growth factor is a secreted angiogenic mitogen. A;Reference number: A40080; MUID:90069608; PMID:2479986 A;Accession: B40080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Molecule type: mRNA
A;Residues: 1-190 <LEUV
A;Residues: 1-190 <LEUV
A;Residues: 1-190 <LEUV
A;Residues: 1-190 <LEUV
A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
A;Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Crisp
Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A;Title: Vascular endothelial factor: a new member of the platelet-derived growth
A;Reference number: A33787; MUID:90121225; PMID:2610687
A;Accession: B33787
A;Accession: B33787
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A;Residues: 27-31 <FER>
C;Keywords: alternative splicing; glycoprotein
C;Keywords: alternative splicing; glycoprotein
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-190/Product: vascular endothelial growth factor #status predicted F;27-190/Binding site: carbohydrate (ABn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Biochem. Biophys. Res. Commun. 161, 851-858, 1989
A;Title: Pituitary follicular cells secrete a novel heparin-binding
A;Reference number: A33255; MUID:89286596; PMID:2735925
A;Accession: A33255
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                                                                                                                                                                                                                                                            A; Molecule type: mRNA
A; Residues: 1-190 < CON>
                                                                                                                                                                                                                                                                                                             A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                               A; Title: Amino acid and cDNi
A; Reference number: A35987;
A; Accession: A35987
                                                                                                                                                                                                                                                                                                                                                                                                                                       Proc. Natl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            R; Conn,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999 C;Accession: A35987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        glioma-derived vascular endothelial cell growth factor -
C;Species: Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: mRNA
A;Residues: 27-190 <TIS>
A;Cross-references: GB:M31836; NID:g163808; PIDN:AAA30804.1;
R;Ferrara, N.; Henzel, W.J.
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                                                                                                                                                                                                                                                                                                                                                                                                                              G.; Bayne, M.L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K.A.; Palisi, T.M.; Hope, atl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
86
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23;
                              1 CNDEGLESVPTEESNITMQIMRIKPH 26
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                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                          CDNA sequences of a vascular endothelial cell mitogen that 987; MUID:90207249; PMID:2320579
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88.5%;
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                                                                                                             Score 121; DB 2;
Pred. No. 1.9e-11;
1; Mismatches 3
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Pred. No. 1.9e-11;
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11
                                                                                                                                                                       DB 2; Length 190,
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placental growth factor precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change 05-Nov-1999
C;Accession: A56125
C;Accession: A56125
T;Accession: A56125
                                                                                                                                                                                                                                   A; Title: Purification and characterization A; Reference number: A56125; MUID:95221439; A; A; Accession: A56125
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C;Date: 07-Apr-1994 #sequence_revision 18-Nov-1994
C;Accession: B49530
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Virol. 68, 84-92, 1994
A;Title: Homologs of vascular endothelial growth factor are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    vascular endothelial growth factor homolog
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A; Residues: 1-128 < FLA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Title: Vascular endothelial growth factor (VEGF) and VEGF receptor 2 A;Reference number: I51295; MUID:95301109; PMID:7781909
                                                                                                                                                                                                            A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-133 <LYT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R; Lyttle, D.J.; Fraser, K.M.; Fleming, S.B.; Mercer, A.A.; Robinson, A.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 10
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                                                                                                                                                                          Cross-references: GB:L40030; NID:g1263413;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cross-references: GB:S67520; NID:g456897; PIDN:AAB29220.1; PID:g456899; Note: sequence inconsistent with nucleotide translation; Note: sequence extracted from NCBI backbone (NCBIN:141420, NCBIP:141425)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;Status: preliminary
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Best Local
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                                                                                                                                                         Keywords: glycoprotein
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                        83
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                                                                                         14;
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14; Conserv
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                                                                                                         Similarity
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                                                     CNDEGLESVPTEESNITMQIMRIKPH 26
                        CGDEGLHCVALKTANITMQILKIPPN 108
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larity 53.8%;
Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         66.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. 1.36
4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 83;
Pred. No.
                                                                                       Score 76; DB 2;
Pred. No. 0.0002;
5; Mismatches
                                                                                                                                                                                                                            conceptual
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1.3e-05;
3;
                                                                                                                                                                                                                                                                of a naturally PMID:7706320
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6;
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                                                                                                                                                                          PIDN:AAA97426.1; PID:g1263414
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                                                                                                                                                                                                                                translation
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                                                                                                                       Length 158;
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                                                                                                                                                                                                                                                                                                                  Soderman, D.D.;
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A;Title: Characterization of the murine VEGF-related factor gene. A;Reference number: JC4679; MUID:96183052; PMID:8607868
A;Accession: JC4680
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JC4680
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A41236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vascular endothelial growth factor-related factor 167 precursor N;Alternate names: VRF 167 protein C;Species: Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Maglione, D.; Guerriero, V.; Viglietto, G.; Delli-Bovi, Proc. Natl. Acad. Sci. U.S.A. 88, 9267-9271, 1991
A;Title: Isolation of a human placenta CDNA coding for a A;Reference number: A41236; MUID:92021031; PMID:1924389
A;Accession: A41236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              placental growth factor precursor - human C; Species: Homo sapiens (man)
                                                                                                                                                                                   A; Map position: A; Introns: 137/2
                                                                                                                                                                                                                         A;Gene: vr
                                                                                                                                                                                                                                         C;Genetics:
                                                                                                                                                                                                                                                            ar endothelial growth
                                                                                                                                                                                                                                                                           A;Cross-references: GB:U43837; NID:g1314335; PIDN:AAC52553.1; PID:g1314336 C;Comment: This factor is a mitogen, that is selective for endothelial cel
                                                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-188 < TOW>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Map position: 14q24-14q31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Gene: GDB: PGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GB:X54936; NID:g35521; PIDN:CAA38698.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Residues: 1-149 < MAG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Status: preliminary A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Date: 19-Jun-1992 #sequence_revision 19-Jun-1992 #text_change 05-Nov-1999
                                                                                                                                                ;1-21/Domain: signal sequence #status;22-188/Product: vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;Accession:
                                                                         Matches
                                                                                                           Query Match
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                                                                                            Local
82
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                                                                         Similarity
12; Conserv
CPDDGLECVPTGQHQVRMQILMIQ 105
                                  CNDEGLESVPTEESNITMQIMRIK 24
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factors 167 an
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50.0%;
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                                                                                          Score 66; DB 2;
Pred. No. 0.0095;
                                                                                                                                                                                                                                                              and VEGF 186.
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Pred. No. 0.00027;
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                                                                                                                                                ced <SIG>
factor-related factor
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                                                                                                           Length 188,
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vascular endothelial growth factor-related factor 186 precursor - mouse N;Alternate names: VRF 186 protein, VEGF 186 C;Specites: Mus musculus (house mouse) C;Specites: Mus musculus (house mouse) C;Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999 C;Accession: JC4679 R;Townson, S.; Lagercrantz, J.; Grimmond, S.; Silins, G.; Nordenskjoeld, M.,

ed factor 186 186

Commun.

220,

922-928,

; Silins,

Nordenskjoeld, M.;

Weber,

RESULT

JC4679

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R;Hayashi, T.; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, C.G. gasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa, H. DNA Res. 8, 11-22, 2001
A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7 and gend A;Reference number: A99629; MUID:21156231; PMID:11258796
A;Accession: A91146
A;Status: preliminary A,Molecule type: DNA A;Residues: 1-385 <HAY>
A;Gross-references: GB:BA000007; PIDN:BAB37560.1; PID:g13363610; GSPDB:GN00154
A;Experimental source: strain O157:H7, substrain RIMD 0509952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hypothetical protein ECs4137 [imported] - Escherichia coli (strain O157:H7, substrain RI C;Species: Escherichia coli
C;Species: Escherichia coli
C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 18-Jul-2001
C;Accession: A91146
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C;Keywords: growth factor
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-207/Product: vascular endothelial growth factor related factor #status predicted
Search completed: January 30, 2004, 11:46:17 Job time : 12.2 secs
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A;Gene: vrf
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SEQUENCE FROM N.A. (ISOFORM VEGF165). MEDILINE-92231879; PubMeda1567395; Weindel K., Marme D., Weich H.A.; "ALDS-associated Kaposi's sarcoma cells in culture express vascular endothelial growth factor."; Biochem. Biophys. Res. Commun. 183:1167-1174(1992). [6] SEQUENCE FROM N.A. (ISOFORM VEGF145). MEDILINE-97207275; PubMed-9054410;	MEDINES-2168017; PubMed-1791831; MEDINES-2168017; PubMed-1791831; Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W.; "The vascular endothelial growth factor family: identification of a fourth molecular species and characterization of alternative splicing of RNA."; Mol. Endocrinol. 5:1806-1814(1991).		SEQUENCE FROM N.A. (ISOFORMS VEGF189 AND VEGF165). SEQUENCE FROM N.A. (ISOFORMS VEGF189 AND VEGF165). MEDLINE-90069608; PubMed-2479986; Leung D.W., Cachianes G., Kuang WJ., Goeddel D.V., Ferrara N.; "Vascular endothelial growth factor is a secreted angiogenic mitogen."; Science 246:1306-1309(1989). Science 246:1306-1309(1989). [2] SEQUENCE FROM N.A. (ISOFORM VEGF189), AND PARTIAL SEQUENCE. MEDLINE-90069609; PubMed-2479987; Keck P.J., Hauser S.D., Krivi G., Sanzo K., Warren T., Feder J., Connolly D.T.; "Vascular permeability factor, an endothelial cell mitogen related to	J

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Poltorak Z., Conem...,
Keshet E., Neufeld G.;
"VEGF145, a secreted vascular endothelial
binds to extracellular matrix.";
raiol. Chem. 272:7151-7158(1997)...
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Tidentification and characterization of a new splicing "Identification and characterization of a new splicing vascular endothelial growth factor: VEGF183.";
Priochim. Biophys. Acta 1443:400-406(1998).
           MEDLINE=93145946; Put
Fiebich B.L., Jaeger
Kochs G., Marme D., F
                                                                                                        Connolly D.T., Olander J.V., Heuvelman D., Nelson R., Siegel N., Haymore B.L., Leimgruber R., Feder J.; "Human vascular permeability factor. Isolation from U9 J. Biol. Chem. 264:20017-20024(1989).
                                                                                                                                                                                                                                        Rieder M.J., Armel T.Z., Carrington D.P., Poel C.L., Toth E.J., Yi Q., Nickerson D. Submitted (OCT-2001) to the EMBL/GenBank/
                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                  Sato J.D., Whitney R.G.; "Human cDNA for vascular endothelial
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MEDLINE=99394945; PubMed=10464055;
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Murata H., Fukushima J., Hattori S.,
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encothelial growth factor homodimers Bur. J. Biochem. 211:19-26(1993).
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Starovasnik M.A.;
"1H, 13C, and 15N backbone assignment receptor-binding domain of vascular en protein Sci. 6:2250-2260(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135 MEDILINE=98035455; PubMed=9351807; Muller Y.A., Christinger H.W., Keyt B.A., de Vos "The crystal structure of vascular endothelial quantity of the control of the contr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Murphy J.F., Fitzgerald D.J.; "Vascular endothelial growth factor induces cyclooxygenase-dependent proliferation of endothelial cells via the VEGF-2 receptor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Solution structure of the heparin-binding endothelial growth factor."; Structure 6:637-648(1998).
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Starovasnik M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wiesmann C., Christinger H.W., Cochran A.G., Cunning Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.; "Crystal structure of the complex between VEGF and a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Synthesis and assembly endothelial growth facto
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              refined to 1.93-A resolution:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRUCTURE BY NMR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     iochemistry
                                                                                                                                                                                                                                                                                                                                                      FUNCTION: Growth factor active in angiogenesis, vasculogenesis are endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin. Neuropillin-1 binds isoforms VEGF-165 and VEGF-145. SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PIGF (By similarity).
                                                                                                                                                                                      VEGF165 is more basic, has heparin-binding properties and, although a signicant proportion remains cell-associated, most freely secreted. VEGF189 is very basic; it is cell-associated after secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a soluble form by heparin, heparinase or plasmin.
                                                                                                                                                                  form by heparin, heparing ALTERNATIVE PRODUCTS
                                                                                                                                                                                                                                                                                                             with PIGF (By similarity).
SUBCELLULAR LOCATION: VEGF121 is acidic and freely
VEGF165 is more basic, has heparin-binding properti
                                             IsoId=P15692-1;
                                                                                                                    Comment=Experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5:1325-1338(1997).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PubMed=9207067;
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                                                                                                                                              splicing;
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                                                                                                                    confirmation
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                                                                                                                                              Named isoforms=7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nt and secondary structure of endothelial growth factor.";
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IsoId=P15692-2;

Sequence=VSP_004622;

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TARKER REPORTED BOOKS REPORTED TO SOCIO COCCURATE REPORTED
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Best Local S
Matches 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VEGA_PIG STANDARD; PRT; 190 AA.
P49151; Q9GL52;
01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
                                                                                                                 PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBI outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
Heparin-binding; Multigene family.
SIGNAL 1 26 POTEN
CHAIN 27 190 VASCU
                                                                                                                                                                          ProDom; PD001629; PD growth factor; SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                InterPro; IPR000072; PD_growth_factor
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                      EMBL; X81380; CAA57143.1; -.
EMBL; AF318502; AAG33064.1;
PIR; S52130; S52130.
HSSP; P15692; 1VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (See http://www.isb-sib.ch/announce/
or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Biochim. Biophys. Acta 1260:235-238(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=95143284; PubMed=7841203;
Sharma H.S., Tang Z.H., Gho B.C.H.,
"Nucleotide sequence and expression
endothelial growth factor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sus scrofa
                                                                                      Mitogen;
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SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell
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T., Canty J.M.;
cloning of porcine
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                                                                          PS00249; PDGF 1; 1.
PS50278; PDGF 2; 1.
Angiogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CNDEGLESVPTEESNITMQIMRIKPH
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Pred. No. 7.7e-14;
VASCULAR ENDOTHELIAL GROWTH FACTOR
                                POTENTIAL
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STANDARD;

PRT; 214 AA.

28-FEB-2003 (Rel. 41, Created)

28-FEB-2003 (Rel. 41, Last sequence update)

28-FEB-2003 (Rel. 41, Last annotation update)

VEGC_CR_CANFA

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                     use by modified
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scheidegger P., Weiglhofer W., Suarez Ballmer-Hofer K., Jaussi R.; "Vascular endothelial growth factor (V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Canis familiaris (Dog).
Bukaryota; Metazoa; Chordata; Craniata; Ve:
Mammalia; Eutheria; Carnivora; Fissipedia;
                                                         the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                         IBOId=Q9MYV3-3; Sequence=VSP_004615, VSP_004616;
-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE=Heart;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=20125516;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9615;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mitted (MAR-1999) to the EMBL/GenBank/DDBJ databases. FUNCTION: Growth factor active in angiogenesis, vascuendothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apopinduces permeabilization of blood vessels. It binds to VEGFR1/Fit-1 and VEGFR2/Kdr receptors and to heparan
                                                                                                                                                                                                                                                                                                                                                                                                                             heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked.
                                                                                                                                                                                                                                                                                                                                                                  SUBCELLULAR LOCATION: Secreted but to the extracellular matrix unless
                                                                                                                                                                                  Name=VEGF-164;
                                                                                                                                                                                                                          Name=VEGF-182;
                                                                                                                                                                                                                                                                  Name=VEGF-188
                                                                                                                                                                                                                                                                                 Event=Alternative splicing, Na
Comment=Additional isoforms
                                                                                                                                                                                                                                                                                                                            ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                            with PIGF (By similarity)
                                                                            SWISS-PROT entry is copyright. It is produced through sen the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                     IsoId=Q9MYV3-2;
                                                                                                                                                                                                                                           IBoId=Q9MYV3-1;
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                     non-profit institutions as long as and this statement is not removed. U
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ilarity 92.3%;
Conservative
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license agreement (See http://www
                                                                                                                                                                                                   Sequence=VSP_004617;
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T -> A (IN REF. 2).
M; 04D40BBD7913047F CRC64;
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There are no restrictions
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ia; Canidae;
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[2]
SEQUENCE FROM N.A. (ISUrva...
SEQUENCE FROM N.A. (ISUrva...
MEDLINB-92355593; PubMed=1644816;
MEDLINB-92355593; PubMed=1644816;
Claffey K.P., Wilkison W.O., Spiegelman B.M.;
Claffey K.P., Wilkison W.O., Spiegelman B.M.;
"Vascular endothelial growth factor. Regulation by cell
"Vascular endothelial growth factor. Regulation by cell
differentiation and activated second messenger pathways.";

Chem. 267:16317-16322(1992).
                                                                                                                                                                                                                                                                                                                                                            Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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VEGA_MOUSE
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VARSPLIC
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01-OCT-1996 (Rel. 34,
15-SEP-2003 (Rel. 42,
Vascular endothelial c
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01-APR-1993
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EMBL; AF133250; AAD29684.1;
EMBL; AF133249; AAD29683.1;
EMBL; AF133248; AAD29682.1;
                                                                                                                                                                                                              Development 114:521-532(1992).
                                                                                                                                                                                                                           MEDLINE=92274860; PubMed=1592003;
Breier G., Albrecht U., Sterrer S., Risau W.;
"Expression of vascular endothelial growth factor during embryonic
angiogenesis and endothelial cell differentiation.";
                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                      VEGF OR VEGFA.
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PROSITE; PS50278; PDGF_2; 1.
Mitogen; Angiogenesis; Growth
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SMART; SM00141; PDGF; 1.
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Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
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Sciurognathi; Muridae;
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음 성

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Shima D.T., Kuroki M., Deutsch U., Ng Y., Adamis A.P., D'Amo: "The mouse gene for vascular endothelial growth factor. Genometructure, definition of the transcriptional unit, and characterization of transcriptional and post-transcriptional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       regulatory sequences.";
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                Isoid-000731-2; Sequence=VSP_004626, VSP_004627;

Name=VBCF-2; Synonymes-VEGF120;

IsoId-000731-3; Sequence=VSP 004628;

IsoId-000731-3; Sequence=VSP 004628;

TISSUE SPECIFICITY: In developing embryos, expressed mainly in technoid plexus, paraventricular neuroepithelium, placenta and kidney glomeruli. Also found in bronchial epithelium, adrenal gland and in seminiferous tubules of testis. High expression of VBCGF continues in kidney glomeruli and choroid plexus in adults.

DOMAIN: VEGF-3 contains a basic insert which acts as a cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biol. Chem. 271:3877-3883(1996).

FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibite apoptosis, and proliferation, promotes cell migration. It binds to the induces permeabilization of blood vessels. It binds to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Event=Alternative splicing; Named iso Name=VEGF-3; Synonyms=VEGF188; IsoId=Q00731-1; Sequence=Displayed; Name=VEGF-1; Synonyms=VEGF164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
                                                                                                                                          SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   remains cell-surface associated unless released ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           with PlGF (By similarity).
SUBCELLULAR LOCATION: VEGF-1 and VEGF-2 are secreted while VEGF-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
                                                                                                                                                                                    signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Named isoforms=3;
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between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).

SMART; SM00141; rvo.,

SMART; SM00141; rvo.,

PROSITE; PS00249; PDGF_1; 1.

PROSITE; PS00278; PDGF_2; 1.

Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;

Mitogen; Angiogenesis; Growth galicing; Multigene family.

Heparin-binding; Alternative splicing; Multigene family.

BY SIMILARITY.

SIGNAL

1
26
VASCULAR ENDOTHELIAL GROWTH FACTOR

THAIN
27
39
BY SIMILARITY. EMBL; U41363; PIR; A44881; A44881. PIR; B44881; B44881. EMBL; \$37052; AAB22252.1; -.
EMBL; \$38083; AAB22253.1; -.
EMBL; \$38100; AAB22254.1; -.
EMBL; M95200; AAA40547.1; -. Pfam; PF00341; PDGF; MGD; MGI:103178; Vegfa InterPro; IPR000072; PI ; PD001629; PD_growth_factor; 1. SM00141; PDGF; 1. 117 141 141 1 27 51 82 86 76 100 -; NOT_ANNOTATED_CDS 26 214 93 127 129 129 16 85 208 164 PD_growth_factor. . /FTId=VSP 004: Missing (in isoform VEGF-2) /FTId=VSP_004626. Missing (in isoform VEGF-1). N-LINKED (GLCNAC. . .) (PRO K -> N (in isoform VEGF-1). INTERCHAIN (BY SIMILARITY) INTERCHAIN /FTId=VSP 004627 (BY SIMILARITY). .) (PROBABLE)

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RESULT 5
VEGA_SHEEP
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                                       Heparin-binding; Multigene f
SIGNAL 1 26
CHAIN 27 146
DISULFID 51 93
DISULFID 86 129
DISULFID 86 129
DISULFID 76 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Redmer D.A., Dai Y., Li J., Charnock-Jones D.S., Smith S.K.,
Reynolds L.P., Moor R.M.;
"Characterization and expression of vascular endothelial growth
factor (VEGF) in the ovine corpus luteum.";
J. Reprod. Fertil. 108:157-165(1996).
-i- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
endothelial cell growth. It induces endothelial cell
proliferation, promotes cell migration, inhibits apoptosis, and
induces permeabilization of blood vessels. It binds to the
VEGFR1/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and
                DISULFID
CARBOHYD
   SEQUENCE
                                                                                                                                                                       ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF_1; 1.
                                                                                                                                                                                                                   InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                             EMBL; X89506; CAA61677.1;
                                                                                                                                                                                                                                                                                                                                                                                               This
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Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
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28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPF).
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01-OCT-1996
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                                                                                                                                            Mitogen;
                                                                                                                                                                                                                                                                                                         or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                     entities requires a license agreement
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                                                                                                                                                                                                                                                 HSSP; P15692; 1VPP
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                                                                                                                                                                                                                                                                                                                                   s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - Buropean Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way ified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also
                                                                                                                                                                                                                                                             S57956; S57956.
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PS50278; PDGF 2; 1.
Angiogenesis; Growth
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   17247 MW;
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INTERCHAIN (BY SIMILARITY).

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N-LINKED (GLUNGC. . . ) (POTENT
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Pred. No. 4.1e-12;
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                                                                                                                                           factor; Glycoprotein; Signal,
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 4E792CB557F91760 CRC64;
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                                                                                                                                                                                                                                                                                                                    noved. Usage by and for commercial (See http://www.isb-sib.ch/announce)
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RESULT 6
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Best Local S
Matches 23
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DISULFID
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SEQUENCE
                                                                                                                                                                                                                  PROSITE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
01-BFB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A (VEGF-A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VEGA
                                                                                                                                                                                                                                                                                                   EMBL; M84230; AAA37057.1; -. HSSP; P15692; 1VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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                                                                                                                                                                                                                                                                        InterPro; IPR000072; Pfam; PF00341; PDGF;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ISSUE=Bile duct;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FUNCTION: Growth factor active in angiogenesis, cell growth. Induces endothelial proliferation permeability (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also foun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUBCELLULAR LOCATION: Secreted but to the extracellular matrix unless
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nitted (JAN-1992) to the EMBL/GenBank/DDBJ databases
FUNCTION: Growth factor active in angiogenesis, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             with PlGF (By similarity).
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                                                                                                                     Angiogenesis;

67

D 25

56

101

D 60

103

D 50

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59

74

74
                                                                 Similarity
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                                                                                                                                                                                                                                                           PD001629; PD_growth_factor; 1.
                                                                                                                                                                                                                    PS00249; PDGF_1; 1.
PS50278; PDGF_2; 1.
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                        CNDEGLESVPTEESNITMQIMRIKPH 26
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nilarity 88.5%;
Conservative
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88.5%;
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INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
M9; 9EBB6A81A9D5DCA4 CRC64;
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Pred. No. 3.8e-12;
); Mismatches 3
                                                                Score 121; DB 1;
Pred. No. 4.3e-12;
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Hystricognathi; Caviidae; Cavia.
                                                                                                                                                                                                      factor; Glycoprotein
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RESULT 7
VEGA_BOVIN
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"pituitary follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells.";

Biochem. Biophys. Res. Commun. 161:851-858 (1999).

-I- FUNCTION: Growth factor active in angiogenesis, vasculogenesis a endothelial cell growth. It induces endothelial cell provileration, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFRI/Fit-1 are very larger to the vegetal for the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-FEB-2003 (Rel. 41, Last sequence update)
Vascular endothelial growth factor a permeability.
                                                                                                                                           EMBL; M32976; AAA30502.1; -.
EMBL; M31836; AAA30804.1; -.
EMBL; M33750; AAA30805.1; -.
EMBL; M33750; BAA0806.
PIR; B40080; B40080.
                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tischer E., Gospodarowicz D., Mitchell R., Silva M., Sch: Lau K., Crisp T., Fiddes J.C., Abraham J.A.; Lau K., Crisp T., Fiddes J.C., Abraham J.A.; "Vascular endothellial growth factor: a new member of the derived growth factor gene family."; Biochem. Biophys. Res. Commun. 165:1198-1206(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           permeability factor) (VPF).

VEGF OR VEGFA.
ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
                                                                       InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <del>-</del>
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Leung D.W., Cachianes G., Kuang W.-J.,
"Vascular endothelial growth factor is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P15691;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 27-31.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Science 246:1306-1309(1989)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PLGF (By similarity).
SUBCELLULAR LOCATION: Secreted but remains associated to cells of the control of the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Name=Alpha;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IsoId=Pi5691-2; Sequence=VSP 004613, VSP 004614; VIANTIY: BELONGS TO THE PDG\overline{F}/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (Rel. 14, Created)
(Rel. 14, Last seq
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PROSITE; PS50278; P
PROSITE; PS50278; P
Mitogen; Angiogenes
Heparin-binding; Al
SIGNAL 1
CHAIN 27
DISULFID 51
DISULFID 51
DISULFID 82
DISULFID 86
DISULFID 76
DISULFID 76
DISULFID 76
CARBOHYD 100
CARBOHYD 100
                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentifies requires a license agreement (See http://www.isb-sib.ch/an
                                                                                                                                                                                                                                                Miura N., Misumi K., Kawahara K., Nakashima M., Ful
Kawahata H., Uto N., Oka T., Maruyama I., Sakamoto
"Cloning of cDNA and high-level expression of equir
endotherial growth factor (VEGF).";
                                                                                                                                                                                                                                                                                                                                                                                                                                 Vascular endothelial growth factor A precursor Vascular endothelial growth factor A precursor Vascular endothelial (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                       EMBL; AB053350; BAB20890.1;
HSSP; P15692; IVGH.
                                                                                            or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                            Equus caballus (Horse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9GKR0;
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                                                                                                                                                                                       - I- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                               VEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VEGA_HORSE
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                                                                                                                                                                                                                          with PIGF (By similarity).
SUBCELLULAR LOCATION: Secreted but
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PS50278; PDGF_2; 1.
Angiogenesis; Growth factor; Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CNDESLECVPTEEFNITMQIMRIKPH 111
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88.5%;
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                                                                                           is not removed. usay: -, agreement (See http://www.isb-sib.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 121; DB 1;
Pred. No. 5.2e-12;
0; Mismatches 3
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BY SIMILARITY.
BY SIMILARITY.
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EDBF903E46E24789 CRC64;
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INTERCHAIN (BY SIMILARITY)
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Y SIMILARITY.
Y SIMILARITY.
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ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.

Pfam; PF00341; PDGF;

InterPro; IPR000072; PD_growth_factor.

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RESULT 9
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Best Local S
Matches 23
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Multigene
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                                                                                                     DiSalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G., Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.; "Purification and characterization of a naturally occurring vascular endothelial growth factor.placenta growth factor heterodimer."; J. Biol. Chem. 270:7717-7723(1995).

-I- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-AUG-1990 (Rel. 15, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
                                                                                                                                                                                                                                                                                                                                             (VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 masseter muscle.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P16612; Q9JI
01-AUG-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conn G., Bayr
Palisi T.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                      VEGF-A120).
Ishii H., Arakawa T., Okayama M., Oota I., Takuma "Developmental expression of vascular endothelial "Developmental expression of vascular endothelial"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE;
                                                                                                                                                                                                                                                                     MEDLINE=95221439; PubMed=7706320;
                                                                                                                                                                                                                                                                                                    SEQUENCE OF 27-40.
                                                                                                                                                                                                                                                                                                                                Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. (ISOFORMS VEGF-A188; VEGF-A164; VEGF-A144 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Palisi T.M., Hope D.A., Thomas K.A.,"
"Amino acid and cDNA sequences of a vascular endothelial cell mitogen
that is homologous to platelet-derived growth factor.";
Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=90207249; PubMed=2320579;
Conn G., Bayne M.L., Soderman D.D., Kwok P.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EGA_RAT
VEGF-A164 is more basic, has heparin-binding properties although a signicant proportion remains cell-associated, freely secreted. VEGF-A188 is very basic; it is cell-ass
                                              with PIGF (By similarity).
SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely secreted.
                                                                             heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nalia; Eutheria; Rodentia;
_TaxID=10116;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CNDEGLESVPTEESNITMQIMRIKPH 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PS50278; PDGF_2; 1.
Angiogenesis; Growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tami
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22312 MW;
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                                                                                                                                                                                                                                                                                      tumor;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9QXG6; Q9QXG7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (ISOFORM VEGF-A164), AND SEQUENCE OF 27-190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             88.5%;
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VASCULAR ENDOTH
BY SIMILARITY.
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BY SIMILARITY.
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 121;
Pred. No. 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Rati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87E9E161439E5F87 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    214
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                                                                             as
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                                                                             heterodimer
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                             and,
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RESULT 10
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STANDARD;

PRT;

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Query Match
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Matches 22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SMART; SM00141; FULL 1; 1.

PROSITE; PS00249; PDGF 1; 1.

PROSITE; PS50278; PDGF-2; 1.

Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;

Mitogen; Angiogenesis; Growth splicing; Multigene family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DISULFID CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; M32167; AAA41211.1; --
EMBL; AF215725; AAF19211.1; --
EMBL; AF215726; AAF19212.1; --
EMBL; AF222779; AAF25958.1; --
EMBL; AF222779; DAF25958.1; --
EMBL; AF25958; DAF25958.1; --
EMBL; AF25958; DAF25958.1; --
EMBL; AF25958; DAF25958; DAF2595958; DAF2595958; DAF2595958; DAF
                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                           CONFLICT
                                                                                                                                                                                                                                                                                                                                                           VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProDom; PD001629; PD_growth_factor; SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <del>:</del>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR000072; PD_growth_factor.
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SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Name=VEGF-A120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=VEGF-A144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Name=VEGF-A164;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              after secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a form by heparin, heparinase or plasmin (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Name=VEGF-A188;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IsoId=P16612-3; Sequence=VSP_004632;
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98
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                                               CNDEGLESVPTEESNITMQIMRIKPH
   CNDEALECVPTSESNVTMQIMRIKPH
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                                                                                                                                Conservative
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                                                                                                                                Pred. No. 5.9
                                                                                                                                                                  Score 121;
Pred. No. 5
                                                                                                                                                                                                                                                                                                                                                           Missing (In isoform VEGF-A144)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Missing (In
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-LINKED (GLCNAC.
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V -> A (IN REF. 2
                                                                                                                                                                                                                                                                                                                                                                                                                     /FTId=VSP_004630.
Missing (In isoform VEGF-A120)
                                                                                                                                                                                                                                                                                                                                                                                          FTId=VSP_004631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /FTId=VSP_004629.
                                                                                                                                                                                                                                                                60FBB876F5304946
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                                                                                                                                                                                         Length 214;
                                                                                                                                                                                                                                                                CRC64;
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RESULT 11
VEGA_CHICK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                   Heparin-binding; Multigene SIGNAL 1 26
                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000072; PD_growth_factor.
pfam; PF00341; PDGF; 1.
proDom; PD0001629; PD_growth_factor; 1.
smarr; sm00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AF063013; AAK00049.1; HSSP; P15692; IVGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=99311285; PubMed=10382276;
Yi X.J., Jiang H.Y., Lee K.K., Tang P.L., Chow P.H.;
"Expression of vascular endothelial growth factor (VEGF)
receptors during embryonic implantation in the golden ham
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mesocricetus auratus (Golden hamster).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       permeability factor)
VEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28-FEB-2003 (Rel. 41, 15-SEP-2003 (Rel. 42, Vascular endothelial (
                                                                                                                                                                                                                                                                                                                                               PROSITE;
                                                                                                                                                                                                                                                                                                                                                            PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (Mesocricetus auratus).";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  I Tissue Res. 296:339-349(1999).

FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             with PIGF (By similarity).
SUBCELLULAR LOCATION: Secreted but
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the extracellular matrix unless
                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                              PS00249; PDGF 1; 1.
PS50278; PDGF 2; 1.
Angiogenesis; Growth factor;
                                                                                         CNDEGLESVPTEESNITMQIMRIKPH
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                                                                                                                                 Conservative
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                                                                                                                                                                                         $
     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and Embryo;
                                                                                                                                                                                                      190
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                                                                                                                                            84.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    , Last sequence update)
, Last annotation update)
growth factor A precursor (VEGF-A) (Vascular (VPF).
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                                                                                                                                                                                                                                          VASCULAR ENDOTHELIAL C
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                2;
                                                                                                                                 Pred. No. 3.3
2; Mismatches
                                                                                                                                              Score 116;
Pred. No. 3
                                                                                                                                                                                                   INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POT
                                                                                                                                                                                                                                                                                                      BY SIMILARITY.
     PRT;
                                                                                                                                                                                       F00C5A8EA79A465F
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     216
                                                                                                                                                                                                                                                                                                                              Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             remains associated to cells released by heparin (By
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          found as heterodimer
                                                                                                                                                                                       CRC64;
                                                                                                                                                          Length 190;
                                                                                                                                                                                                                                                                                      GROWTH FACTOR A.
                                                                                                                                                                                                      (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hamster
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                                                                                                                                Gaps
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Flamme I., Breier G., Risau W.;
"Vascular endothelial growth factor (VEGF) a
(flk-1) are expressed during vasculogenesis
differentiation in the quall embryo.";
Dev. Biol. 169:699-712 (1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Overexpression of vascular endothelial growth factor in the embryo induces hypervascularization and increased vascular permeability without alterations of embryonic pattern formations of em
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-JUL-1998 (Rel. 36, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPP).
VEGF OR VEGFA.
Gallus gallus (Chicken), and
This SWISS-PROT entry is copyright. It is produte the Swiss Institute of Bioinformatics the European Bioinformatics Institute. There a use by non-profit institutions as long as i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. (ISOFORMS VEGF SPECIES=C.c.japonica; TISSUE=Embr MEDLINE=96005007; PubMed=7556923;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Takahashi T.;
"Chick embryonic ventricular myocytes VEGF.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=95301109;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SPECIES=C.c.japonica;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 60-187 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SPECIES=Chicken;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; (Archosauria; Aves; Neognathae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Coturnix coturnix japonica (Japanese
Eukaryota, Metazoa, Chordata, Craniat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dev. Biol. 171:399-414(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9031,
                                                                                                                                                                                                                                                                                                                                                                                                    IsoId=P52582-3; Sequence=VSP_004635, VSP_004636;
Note=Has been shown to exist only in qually so far;
TISSUE SPECIFICITY: Abundantly and equally expressed in h
liver. In kidney glomeruli, brain and yolk sac, VEGF-166
10-times more abundant than VEGF-190.
DEVELOPMENTAL STAGE: VEGF-166 is expressed early at day 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
                                                                                                                                                                                                          retention signal.
SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                     upgraded during gastrulation. only from day 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Name=VEGF-146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALTERNATIVE PRODUCTS:
Event=Alternative splicing; Named isoforms=3;
Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                          DOMAIN: VEGF-190 contains a basic insert which
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=VEGF-166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=VEGF-190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBUNIT: Homodimer; disulfide-linked. Also with PIGF (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Note=Has been shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IsoId=P52582-1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IsoId=P52582-2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Heart;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   93934;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              34, Created)
36, Last sequence update)
42, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PubMed=7781909;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (ISOFORMS VEGF-190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence=VSP_004633, VSP_004634; hown to exist only in quail so fa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE=Embryo;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence=Displayed;
                                                                                                                                                                                                          TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (ISOFORMS
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Craniata; Vertebrata; Euteleostomi;
; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                           is expressed early at a Expression of VEGF-190
                                                                                                                          is produced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VEGF-190
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and
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0 is
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           heart and
                                                                                                                                                                                                                                                                                          cell
                                                                                        collaboration
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RP SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN=NIH Swiss;
RX MEDLINE=98065381; PubMed=9401819;
RA Achen M.G., Gad J.M., Stacker S.A., Wilks A.F.;
RA Achen M.G., Gad J.M., Stacker S.A., Wilks A.F.;
RT "Placenta growth factor and vascular endothelial growth factor are co-expressed during early embryonic development.";
RL Growth Factors 15:69-80(1997).
-!- FUNCTION: Growth factor active in angiogenesis, and endothelial
-!- FUNCTION: Growth factor active in angiogenesis, and endothelial
-!- FUNCTION: Growth factor active in angiogenesis, and endothelial
-!- FUNCTION: Growth factor active in angiogenesis, and endothelial
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mitogen; Angiogenesis; Growth; Heparin-binding; Alternative sp SIGNAL 27 216 V. CHAIN 27 216 B DISULFID 83 128 B DISULFID 87 130 B DISULFID 77 77 I T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Placenta growth factor precursor (PIGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE;
PROSITE;
                                                                                                                                                                                                                                                                                     MEDLINE=97059399; PubMed=8903720;
Dipalma T., Tucci M., Russo G., Maglione D.,
Saccone S., della Valle G., de Gregorio L.,
Viglietto G., Persico M.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             MUB
M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P49764;
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ProDom; PD001629; PD_growth_factor;
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AB011078; BAA24925.1; -.
EMBL; S79680; AAB35371.1; -.
HSSP; P15692; IVGH.
HSSP; P15692; IVGH.
InterPro; IPR000072; PD_growth_factor.
                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=10090;
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                                                                                                                                                                                                                                                       "The placenta growth factor gene of the mouse."; Mamm. Genome 7:6-12(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PLGF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOUSE
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pS00249; pDgF 1; 1.
; pS50278; pDgF 2; 1.
; Anglogenesis; Growth factor; Glycoprotein; Signal;
; Anglogenesis; Growth factor; Multigene family.
BY SIMILARITY.
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Rodentia;
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Pred. No.
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INTERCHAIN (BY SIMILARITY)
INTERCHAIN (BY SIMILARITY)
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82E669C2F6FC6DA7 CRC64;
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F -> L (in isoform VEGF-146).
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Missing (in isoform VEGF-166).
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                                                                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            158
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 1;
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                                                                                                                                                                                                                                                                                                      , Lago C.T., R
Dragani T.A.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .) (POTENTIAL).
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RESULT 13
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              the European Bioinformatics Institute. The use by non-profit institutions as long
                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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MEDLINE=94076465; PubMed=8254780;
Lyttle D.J., Fraser K.M., Fleming
"Homologs of vascular endothelial
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Orf virus (strain
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PROSITE; PS50278; PDGF_2; 1.
Angiogenesis; Mitogen; Growth
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SMART; SM00141; PDGF; 1.
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Pfam; PF00341; PDGF;
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SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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RESULT 14
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Q63434;
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-I- FUNCTION: Growth factor active in angiogenesis, and endotled the cell growth, stimulating their groliferation and migration binds to receptor VEGFR-1/FIT1 (By similarity).

-I- SUBUNIT: Antiparallel homodimer; disulfide-linked. Also for the control of the cell of the cel
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                       PIR; /
                                                                                          the European Bioinformatics Institute. The by non-profit institutions as low modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
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                                                           EMBL; L40030; AAA97426.1;
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Mammalia; Eutheria; Rodentia;
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                       A56125; A56125.
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RESULT 15
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Maglione D., Guerriero V., Viglietto G., Ferraro M.G., Ap
Alitalo K., del Vecchio S., Lei K.-J., Chou J.Y., Persico
"Two alternative mRNAs coding for the angiogenic factor,
growth factor (PIGF), are transcribed from a single gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PLGF HUMAN STANDARD; PRT; 221 APR49763; Q07101; Q9BV78; Q976S8; Q1-QCT-1996 (Rel. 34, Created) 28-FEB-2003 (Rel. 41, Last sequence update) 15-SEP-2003 (Rel. 42, Last annotation update)
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"A heparin-binding
expressed in human
                                                                                                                                                                                                                                                                                                  MEDLINE=92021031; PubMed=1924389; Maglione D., Guerriero V., Viglietto G., De "Isolation of a human placenta cDNA coding the vascular permeability factor."; Proc. Natl. Acad. Sci. U.S.A. 88:9267-9271
Cao Y., Ji W.-R., Qi P., "Placenta growth factor: novel isoform generated
                      MEDLINE=97350807; PubMed=9207183; Cao Y., Ji W.-R., Qi P., Rosin A.,
                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                               Placenta growth factor precursor (PIGF).
PGF OR PLGF.
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                                                SEQUENCE FROM N.A.
TISSUE=Placenta;
                                                                                                                                                                                              Growth
                                                                                                                                                                                                                                                      MEDLINE=94198032; PubMed=8148155;
                                                                                                                                                                                                                                                                                                                                                               TISSUE=Placenta,
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                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF00341;
                                                                                   Oncogene
                                                                                                                                                                     PARTIAL
                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
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form of placenta
umbilical vein er
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PLACENTA GROWTH FACTOR.
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Biophys. Res. Commun. 235:493-498(1997)

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RX MEDLINE=2238827; Pubmed=12477932;

RX Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L., Schaefer C.F., Bhat N.K.,

RA Altachul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Altachul S.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Hopkins N.F., Soares M.B., Bonaldo M.F., Cassavant T.L., Scheetz T.E.,

RA Hopkins S., Loguellano N.B., Donaldo M.F., Casavant T.L., Scheetz T.E.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Raha S.S., Loguellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Raha S.S., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Richards S., Wadan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Hakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Generation and initial analysis of more than 15,000 full-length

RT human and mounes cDNA semences ".
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RA Bruels T., Jaillon O., Friedlander L., Samson G., Brottjer P.,
RA Cure S., Segurens B., Anlere F., Samsin S., Crespeau H., Abbasi N.,
RA Aiach N., Boscus D., Dickhoff R., Dors M., Dubois I., Friedman C.,
RA Gouyvenoux M., James R., Madan A., Mairey-Estrada B., Margenot S.,
RA Gouyvenoux M., James R., Madan A., Mairey-Estrada B., Mangenot S.,
RA Martins N., Menard M., Oztas S., Ratcliffe A., Shaffer T., Trask B.,
RA Vacherie B., Bellemere C., Belser C., Besnard-Gonnet M.,
RA Vacherie B., Bellemere C., Belser C., Besnard-Gonnet M.,
Dufosse-Laurent V., Ferron C., Lechaplais C., Louessee C., Muselet D.,
RA Magdelenat G., Pateau E., Petit B., Sirvain-Trukniewicz P., Trybou A.,
RA Magdelenat G., Pateau E., Petit B., Sirvain-Trukniewicz P., Trybou A.,
RA Wega-Czarny N., Bataille E., Bluet E., Bordelais I., Dubois M.,
RA Vega-Czarny N., Bataille E., Gauguet G., Roy A., Sainte-Marthe L.,
RA Nobert D., Wunderle E., Gauguet G., Roy A., Sainte-Marthe L.,
RA Verdier J., Verdier-Discala C., Hillier L., Fulton L., McPherson J.,
RA Matsuda F., Wilson R., Scarpelli C., Gyapay G., Wincker P., Saurin W.,
The DNA sequence and analysis of human chromosome 14.",
                                                          MEDLINE=21192270; PubMed=11069911;

Tyer S., Leonidas D.D., Swaminathan G.J., Maglione D., Battisti M.,

Tucci M., Persico M.G., Acharya K.R.;

"The crystal structure of human placenta growth factor-1 (PIGF-1), a
angiogenic protein, at 2.0 A resolution.";

J. Biol. Chem. 276:12153-12161(2001).

-i- FUNCTION: Growth factor active in angiogenesis, and endothelial
cell growth, stimulating their proliferation and migration. It
binds to receptor VEGFR-1/FLT1. PLGF-2 binds neuropilin-1 and 2
a heparin-dependent manner:
-i- SUBUNIT: Antiparallel homodimer; disulfide-linked. Also found as
heterodimer with VEGF/VEGF-A. PIGF-3 is found both as homodimer
and as monomer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Park J.E., Chen H.H., Winer J., Houck K.A., Ferrara N.; "Placenta growth factor. Potentiation of vascular endothelial growth factor bioactivity, in vitro and in vivo, and high affinity binding to Flt-1 but not to Flk-1/KDR.";
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SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS) (ISOFORM PLGF-1).
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and Placenta;
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SUBCELLULAR LOCATION: The three forms

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 EMBL; X54936; CAA38698.1; -.
EMBL; X72960; AAB30462.2; -.
EMBL; S71529, AAB25832.2; ALT_SEQ.
EMBL; AC006530; AAB30179.1; -.
EMBL; BC0007422; AAH071422.1; -.
EMBL; BC007789; AAH077259.1; -.
EMBL; BC007255; AAH07255.1; -.
EMBL; A18411; CAA01393.1; -.
CONFLICT
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 PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Anglogenesis; Mitogen; Growth factor; Glycoprotein;
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
 InterPro; IPR000072;
Pfam; PF00341; PDGF;
 GO; GO:0008083; Figrowth factor activity; TAS
GO; GO:0007267; P:cell-cell signaling; TAS.
GO; GO:0008284; P:positive regulation of cell
GO; GO:0008165; P:signal transduction; TAS.
 MIM;
 PDB; 1FZV; 09-MAY-01.
Genew; HGNC:8893; PGF.
 modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
 between the Swiss Institute of Bioinformatics and the EMBL outsi
the European Bioinformatics Institute. There are no restrictions
use by non-profit institutions as long as its content is in
modified and this statement is not removed. Usage by and for con
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 PIR; A41236; A41236.
PDB; 1FZV; 09-MAY-01
 or send an
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 Isold=P40763-3, Sequence=VSP_004644, VSP_004645; TISSUE SPECIFICITY: While the three forms are present placental tissues, the PIGF-2 is specific to early (8 placenta and only PIGF-1 is found in the colon and man
 appears to remain cell attached unless released by heparin. ALTERNATIVE PRODUCTS: Event-eAlternative splicing; Named isoforms=3; Name=PlGF-3;
 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 retention signal.
PTM: N-GLYCOSYLATED
 DOMAIN: PLGF-2 contains a
 IsoId=P49763-2; Sequence=VSP_004644;
Name=PlGF-2; Synonyms=PlGF-152;
 Name=PlGF-1; Synonyms=PlGF-131
 601121;
 IsoId=P49763-1; Sequence=Displayed;
 email to license@isb-sib.ch).
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1: sp archea:*
2: sp bacteria
3: sp fungi:*
4: sp human:*
5: sp inverteb:
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7: sp mhc:*
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11: sp rodent:
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13: sp vertebri
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14: sp nuclass:
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1 CNDEGLESVPTEESNITMQIMRIKPH 26
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 GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.
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| σ                  | 9                  | σ                 | 6                  | 11                 | σ                 | 0                  | 6      | δ                 | 6                 | Q                  | 0                  | 6                  | 4                  | 4                  | 6                  | BG                    |   |
| Q8SPL5             | Q9N1S1             | Q9MZB1            | Q9N1S2             | Q9QX39             | Q8WMQ4            | Q95LQ4             | Q8HY70 | Q8SPZ9            | Q9GK00            | Q8MIN1             | Q8MIN0             | Q95NES             | Q96L82             | Q96KJ0             | Q9BDP7             | Ib                    |   |
| Q8spl5 equus cabal | Q9nls1 capreolus c | Q9mzbl ovis aries | Q9n1s2 capreolus c | Q9qx39 spalax leuc | Q8wmq4 aua scrofa | Q95lq4 felis silve |        | Q8spz9 sus scrofa | Q9gk00 callithrix | Q8minl capra hircu | Q8min0 capra hircu | Q95ne5 macaca fasc | Q96182 homo sapien | Q96kj0 homo sapien | Q9bdp7 macaca mula | Description           |   |

0

| 45     | 44     | 43     | 42     | 41                 | 40     | 39     | 38                 | 37                 | 36                 | 35     | 34<br>4            | 33     | 32     | 31                 | 30                | 29     | 28                 | 27                 | 26                 | 25                | 24                 | 23                 | 22                 | 21                 | 20                 | 19                 | 18                | ۲,      |
|--------|--------|--------|--------|--------------------|--------|--------|--------------------|--------------------|--------------------|--------|--------------------|--------|--------|--------------------|-------------------|--------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|---------|
| 47     | 47     | 47.5   | 49     | 49                 | 49     | 50     | 50.5               | 51                 | 51                 | 51     | 60                 | 64     | 65     | 67                 | 83                | 83     | 87                 | 92                 | 92                 | 92                | 109                | 109                | 116                | 120                | 120                | 121                | 121               | 121     |
| 34.1   | 34.1   | 34.4   | 35.5   | 35.5               | 35.5   | 36.2   | 36.6               | 37.0               | 7                  | 37.0   | 43.5               | 46.4   | 47.1   | 48.6               | 60.1              | 60.1   | 63.0               | 66.7               | 66.7               | 66.7              | 79.0               | 79.0               | 84.1               | 87.0               | 87.0               | 87.7               | 87.7              | 0/./    |
| 140    | 137    | 314    |        |                    |        | 830    | 292                | 855                | 385                | 385    | 146                | 146    | 108    | 188                | 113               | 110    | 141                | 188                | 144                | 132               | 194                | 148                | 142                | 75                 | 68                 | 190                | 190               | TUT     |
| 10     | 10     | տ      | 10     | 10                 | 10     | ω      | 11                 | 15                 | 16                 | 16     | 13                 | 13     | σ      | 4                  | σ                 | #      | 1                  | 13                 | 13                 | 12                | 13                 | 13                 | 11                 | 6                  | 6                  | ;                  | 6                 | c       |
| Q9C7J7 | Q8LD26 | Q8MPB9 | Q8LCQ2 | Q9LV67             | Q9T0G3 | Q9Y7T4 | Q8CD60             | Q73344             | Q8CVN7             | Q8X4W2 | Q90X24             | Q90X23 | Q8HY75 | Q8TEV2             | Q8MI20            | 088911 | 070123             | 073682             | 073822             | Q9YMF3            | 042572             | 042571             | Q9ERL6             | 018843             | 097500             | Q91ZE1             | 077643            | Corpora |
|        |        | п      |        | Q9lv67 arabidopsis | w      | œ      | Q8cd60 mus musculu | Q73344 human immun | Q8cvn7 escherichia |        | Q90x24 bothrops in | w      | ovis   | Q8tev2 homo sapien | Q8mi20 ovis aries |        | O70123 mus musculu | 073682 brachydanio | 073822 brachydanio | Q9ymf3 orf virus. | O42572 xenopus lae | O42571 xenopus lae | Q9erl6 mesocricetu | O18843 oryctolagus | 097500 oryctolagus | Q91zel rattus norv | 077643 ovis aries | 100     |

# ALIGNMENTS

| B 8                                 | Qu<br>Ma                                                                                                                                                     | ŞQ  | Ŧ.              | 무                            | DR       | DR                       | 뮸                                      | DR 5                    | 3 5                 | 뮸                           | RL                                                       | RT                                    | ŖΑ                                               | RP                 | R   | Š                | ဂ    | ဂ္ဂ                    | 8                                                                 | S | 7 5                                           | 3 5                | 3 5         | A                                       | Ħ                                | Q9BDP7 | RESULT |  |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------|------------------------------|----------|--------------------------|----------------------------------------|-------------------------|---------------------|-----------------------------|----------------------------------------------------------|---------------------------------------|--------------------------------------------------|--------------------|-----|------------------|------|------------------------|-------------------------------------------------------------------|---|-----------------------------------------------|--------------------|-------------|-----------------------------------------|----------------------------------|--------|--------|--|
| 1 CNDEGLESVPTEESNITMQIMRIKPH 26<br> | Query Match 96.4%; Score 133; DB 6; Length 126;<br>Best Local Similarity 96.2%; Pred. No. 2e-13;<br>Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps | E 1 | NON_TER 126 126 | PROSITE; PS50278; PDGF_2; 1. | PS00249; | SMART; SM00141; PDGF; 1. | ProDom: PD001629; PD growth factor: 1. | Pfam: pF00341; pDGF; 1. | HSSP; P49/63; FFSV. | EMBL; AF339737; AAK26379.1; | Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases. | "Rhesus macaque VEGF mRNA sequence."; | Hazzard T.M., Nayak N.R., Jia Y., Stouffer R.L.; | SEQUENCE FROM N.A. | [1] | NCBI TaxID=9544; | aca. | Catarrhini; Cercopithe | Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; | 2 | Vascular endothelial growth factor (Fragment) | (Humbled: 17, base | 17 (reated) | , ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; | Q9BDP7 PRELIMINARY; PRT; 126 AA. |        | GT 1   |  |
|                                     |                                                                                                                                                              |     |                 |                              |          |                          |                                        |                         |                     |                             |                                                          |                                       |                                                  |                    |     |                  |      |                        |                                                                   |   |                                               |                    |             |                                         |                                  |        |        |  |

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RESULT 3
956182
1D 9951
1D 0951
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AC 0961
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DT 01-
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Matches 25
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 Query Match
 "A new isoform of vascular endothelial growth factor mRNA is down-regulated in renal tumors.";

(In) Unknown A. (eds.);

Proceedings of the 7th World Congress on Microcirculation, pp.3-3, EMBL, AF430866; AAL27435.1;

Interpro. Tennoncom.
 Q96L82;
 Q96KJ0;
Q96KJ0;
 Liu J., Peng X., Yuan J., Qiang B.; "Cloning of vascular endothelial growth factor (VEGF) cDNA."; Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases. EMBL, AY047581; AAX95847.1; -.
 01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
Vascular endothelial growth factor.
 01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor 165b.
 Prodom; PD001629; PD growth factor; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
SEQUENCE 191 AA; 22314 MW; CCE5709
 InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
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 Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
 Homo sapiens (Human)
 PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
SEQUENCE 191 AA; 22258 MW;
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ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 NCBI_TaxID=9606;
 SEQUENCE FROM N.A.
 NCBI_TaxID=9606;
 Homo sapiens (Human)
 InterPro; IPR000072; PD_growth_factor.
 Local
 87
 87
 Similarity
 Similarity
 CNDEGLESVPTEESNITMQIMRIKPH 26
CNDEGLECVPTEESNITMQIMRIKPH 112
 CNDEGLESVPTEESNITMQIMRIKPH 26
 CNDEGLECVPTEESNITMQIMRIKPH 112
 Conservative
 PRELIMINARY;
 PRELIMINARY;
 96.4%;
 96.4%;
 Score 133; DB Pred. No. 3.2e 0; Mismatches
 0
 0;
 Score 133;
Pred. No. 3
 Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
 PRT;
 PRT;
 D25243E540AC79BD CRC64;
 CCE57097DD3779BD CRC64;
 Mismatches
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 3.2e-13;
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 Length 191;
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 Indels
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RESULT 5
Q8MIN0
 RESULT 4
Q95NE5
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Best Local Similarity
Matches 25; Conserv
 Query Match
Best Local Similarity
 Q95NE5;
Q95NE5;
01-DEC-2001
 NON TER
SEQUENCE
 01-OCT-2002 (TrEMBLrel. 22, 01-OCT-2002 (TrEMBLrel. 22, 01-MAR-2003 (TrEMBLrel. 23, Vascular endothelial growth Capra hircus (Goat).
 Q8MINO;
 Invest. Ophthalmol. Vis. Sci. 37:1334-1340(1996).
EMBL; S82167; AAB47118.1; -.
Interpro; IPR000077. The second sec
 Kawate N., Tsuji M., Tamada H., Inaba T., Sawa "Changes of Messenger RNAs Encoding Vascular E and Its Receptors during the Development and M Corpora Lutea.";
Submitted (MAY-2002) to the EMBL/GenBank/DDBJ
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
 PRODOM; PD001629; PD growth factor; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
SEQUENCE 191 AA; 22314 MW; CCE5709
 InterPro; IPR000072; PD_growth_factor.
Pfam; PP00341; PDGF; 1.
 Shima D.T., Gougos A., Miller J.W., Tolen Adamis A.P., D'Amore P.A.; "Cloning and mRNA expression of vascular ischemic retinas of Macaca fascicularis."
 Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey)
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleost
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
 01-DEC-2001
01-OCT-2002
 PROSITE; PS50278; PDGF_2; 1.
 ProDom; PD001629; PD_growth_
SMART; SM00141; PDGF; 1.
 EMBL; AY114353; AAM76674.1;
 TISSUB=Corpus luteum;
Kawate N., Tsuji M., Tamada H.,
 Mammalia; Eutheria; Cetartiodactyla;
Bovidae; Caprinae; Capra.
 SEQUENCE FROM N.A.
MEDLINE=96245208; PubMed=8641836;
 Cercopithecinae;
NCBI_TaxID=9541;
 SIMVEGF165
 SimVEGF165.
 Pfam; PF00341; PDGF;
 InterPro; IPR000072; PD_growth_factor
 SEQUENCE FROM N.A.
 NCBI_TaxID=9925;
 87
 _
 CNDEGLESVPTEESNITMQIMRIKPH 26
 65 AA;
 (TrEMBLrel. (TrEMBLrel. (TrEMBLrel.
 PRELIMINARY;
 Conservative
 PRELIMINARY;
 Macaca.
 7562 MW;
 92.0%;
 96.4%;
 19,
19,
22,
 Last sequence update)
Last annotation update)
factor 121 (Fragment).
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 0;
 factor;
 Created)
Score 127; DB 6; Pred. No. 8.8e-13; 0; Mismatches 2;
 Score 133;
Pred. No. 3.
 BA3E5384364B05E3 CRC64;
 PRT;
 CCE57097DD3779BD CRC64;
 Mismatches
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 Length 65;
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 Callithrix jacchus (Common marmoset)
Eukaryota; Metazoa; Chordata; Craniat
Mammalia; Eutheria; Primates; Platyr
 ProDom; PD001629; PD_growth_factor; SMART; SM00141; PDGF; 1.
PROSITE; PS50278; PDGF_2; 1.
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eute
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora;
Bovidae; Caprinae; Capra.
 Vascular endothelila growth
 01-OCT-2002 (TrEMBLrel. 22,
01-OCT-2002 (TrEMBLrel. 22,
01-MAR-2003 (TrEMBLrel. 23,
 Pfam; PF00341; PDGF; 1.
ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
 "growth factor expression in marmoset monkey c submitted (MAY-2000) to the EMBL/GenBank/DDBJ EMBL; AJ278192; CAC19923.1; -.
 Vascular endothelial growth
 Q9GK00;
01-MAR-2001
 Q9GK00
 SEQUENCE
 EMBL; AY114352; AAM76673.1; -.
InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
 Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
 and Its Receptors during the Development
 Kawate N., Tsuji M., Tamada H., Inaba T., Sawada T.; "Changes of Messenger RNAs Encoding Vascular Endothelial and Its Receptors during the Development and Maintenance
 NCBI_TaxID=9925;
 Capra hircus (Goat).
 01-OCT-2002
01-OCT-2002
 Q8MIN1;
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 SEQUENCE FROM N.A.
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 Corpora Lutea.";
 FISSUE=Corpus
 SEQUENCE FROM N.A.
 InterPro; IPR000072; PD_growth_factor.
 HSSP; P49763; 1FZV.
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 TaxID=9483;
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PS00249; PDGF_1; 1.
PS50278; PDGF_2; 1.
 CNDEGLESVPTEESNITMQIMRIKPH
 CNDESLECVPTEESNITMQIMRIKPH
 CNDEGLESVPTEESNITMQIMRIKPH 26
 CNDESLECVPTEESNITMQIMRIKPH
 109 AA; 12656 MW;
 (TrEMBLrel. 16, (TrEMBLrel. 16, (TrEMBLrel. 23,
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 PRELIMINARY;
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sion in marmoset monkey oviducts.";
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Last annotation update)
factor 165 (Fragment).
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 Score 127; DB 6;
Pred. No. 1.6e-12;
0; Mismatches 2
 Craniata; Vertebrata; Euteleostomi; Platyrrhini; Callitrichidae; Callithrix.
 PRT;
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 912657251A37E023 CRC64;
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 Length 109;
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 Euteleostomi;
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 Growth Factor
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 Caprine
 Gaps
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RESULT 8

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AC Q8888

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 Q8HY70;
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01-MAR-2003
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 Mustela vison (American mink).
Mustela vison (American mink).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Pissipedia; Mustelidae; Mustelinae
 01-MAR-2003 (TrEMBLrel. 23, 01-MAR-2003 (TrEMBLrel. 23, 01-MAR-2003 (TrEMBLrel. 23, Vascular endothelial growth
 NON TER
 ProDom; PD001629; PD_growth_factor;
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
NON_TER 124 124
 Submitted (DEC-2001) to the EMBL/GenBank/DDBJ EMBL, AF461807, AAL85286.1; -. InterPro; IPR000072; PD_growth_factor. Pfam, PF00341; PDGF; 1.
 01-JUN-2002 (TrEMBLrel. 21, 01-JUN-2002 (TrEMBLrel. 21, 01-OCT-2002 (TrEMBLrel. 22,
 Mustela vison.";
Submitted (OCT-2002) to the
 Sus scrofa (Pig)
 Vascular endothelial growth
 EMBL; AY158156; AAN76365.1;
NON_TER 184 184
 "Expression of VEGF isoforms
 SEQUENCE FROM N.A.
 Mustela.
 exercise training.";
 TISSUE=Myocardium;
 SEQUENCE FROM N.A.
 NCBI_TaxID=9823;
 Mammalia; Eutheria;
 Eukaryota; Metazoa;
 Q8SPZ9
 Q8SPZ9
 NCBI_TaxID=9667;
 "The expression of VEGF
 Yuan H., Li J.;
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 ch 92.0%;
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 1 CNDEGLESVPTEESNITMQIMRIKPH 26
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124 AA;
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 PRELIMINARY;
 Conservative
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AA;
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 Chordata; Craniata; Vertebrata;
Cetartiodactyla; Suina; Suidae;
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Pred. No. 1.8e-12;
0; Mismatches 2
 Score 127; DB 6; I
Pred. No. 1.8e-12;
0; Mismatches 2;
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 AA6F8CAFFCF0A0CC CRC64;
BAD47CCB0C146F22 CRC64;
 2E1C1A009E67C9C9 CRC64;
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RESULT 10
Q95LQ
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AC Q95LC
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DT 01-MD
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OC Mamma
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RT Growt
RT Submid
DR Intex
DR HTSAM
DR FROSI
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Q95LQ4;
01-DEC-2001
 Q8WMQ4 ;
 PROSITE;
 01-MAR-2002 (TrEMBLrel. 20, 01-MAR-2002 (TrEMBLrel. 20, 01-OCT-2002 (TrEMBLrel. 22, Vascular endthelial growth
 01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 23, Last annotation update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor.
Felis silvestris catus (Cat).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata;
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 SEQUENCE
 ProDom; PD001629; PD_growth_factor; SMART; SM00141; PDGF; 1.
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 exercise training.";
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 Sus scrofa (Pig)
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ProDom; PD001629; PD_growth_factor; 1.
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 Submitted (SEP-2001) to the EMBL/GenBank/DDBJ EMBL; AB071947; BAB68520.1; -
 SEQUENCE FROM N.A.
Koga L., Kobayashi Y.,
"Nucleotide sequence an
growth factor.";
 NON TER
 NCBI_TaxID=9823;
 NCBI_TaxID=9685;
 "The expression of VEGF in porcine collateral-dependent myocardial
 98
 86
 ,,
 24;
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 Similarity
 Similarity
 PS00249; PDGF_1; 1.
PS50278; PDGF_2; 1.
127 127
 PS00249; PDGF 1; 1.
PS50278; PDGF 2; 1.
189 AA; 22193 MW;
 training.
 Li J.;
 CNDEGLESVPTEESNITMQIMRIKPH 26
 CNDEGLECVPTEEFNITMQIMRIKPH 111
 CNDEGLESVPTEESNITMQIMRIKPH
 CNDEGLECVPTEEFNITMQIMRIKPH 111
127
127
 PRELIMINARY;
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Pred. No. 2.9e-12;
0; Mismatches 2;
 Score 127; DB 6;
Pred. No. 2.8e-12;
0; Mismatches 2
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 Length 189;
 CRC64;
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vascular endothelial
 Indels
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 Felis.
 Euteleostomi;
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RESULT 13
Q9N1S2
 RESULT 12
Q9QX39
ID Q9QX3
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 Matches
 Query Match
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 Capreolus capreolus (Roe deer).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoide
Cervidae; Odocoileinae; Capreolus.
 01-OCT-2000 (TrEMBLrel. 15, 01-OCT-2000 (TrEMBLrel. 15, 01-MAR-2003 (TrEMBLrel. 23, Vascular endothelial growth
 FBBS Lett. 452:133-140(1999).
EMBL, AP186236; AAD56245.1; -
HSSP; P49763; IFZV
InterPro; IPR000072; PD growtl
Pfam; PF00341; PDGF; 1.
capreolus).";
Anim. Reprod. Sci.
EMBL; AF152593; AAI
 PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
SEQUENCE 190 AA; 22488 MW;
 MEDLINE=99313148; PubMed=10386577;
Avivi A., Resnick M.B., Nevo E., Joel A., Levy A.P.;
"Adaptive hypoxic tolerance in the subterranean mole
 Spalax leucodon ehrenbergi (El
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
 MEDLINE=20532861; PubMed=11078967; Wagener A., Blottner S., Goritz F.
 SEQUENCE FROM N.A.
 NCBI_TaxID=9858;
 Q9N1S2;
01-OCT-2000
 Q9N1S2
 ProDom; PD001629; PD_growth_factor;
SMART; SM00141; PDGF; 1.
 ehrenbergi:
 Nannospalax
 VEGF.
 01-MAR-2003
 01-MAY-2000
 Q9QX39
 "Detection of growth
 TISSUE=Testis;
 VEGF.
 SEQUENCE FROM N.A.
 NCBI_TaxID=30637;
 86 CNDEALECVPTSESNITMQIMRIKPH 111
 44
 23;
 23;
 -
 Similarity
 Similarity
 CNDEGLESVPTEESNITMQIMRIKPH
 CNDEGLESVPTEESNITMQIMRIKPH 26
 endothelial growth
 CNDEGLECVPTEEFNIAMQIMRIKPH
 0 (TrEMBLrel. 13,
0 (TrEMBLrel. 13,
3 (TrEMBLrel. 23,
 PRELIMINARY;
 Conservative
 the role of vascular endothelial growth
 PRELIMINARY;
 Conservative
 AAF73232.1;
 64:65-75 (2000)
 S., Gori
 88.4%;
 88.4%;
 PD_growth_factor.
 (Ehrenberg's mole rat).
ta; Craniata; Vertebrata;
ia; Sciurognathi; Muridae;
 Last
Last
 Last sequence update)
Last annotation update)
factor isoform 121 (Fragment).
 0
 0
 Created)
 factor
 Created)
 ij
 Score 122; DB 6;
Pred. No. 1.2e-11;
 Score 122; DB 11;
Pred. No. 1.9e-11;
 2228383BC65F0BFE CRC64;
 Έ.
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 Mismatches
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 annotation
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 Fickel
testis
 26
 69
 190
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 11;
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 roe
 Length 127;
 Pecora; Cervoidea;
 Length
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 deer
 Indels
 factor.";
 Euteleostomi;
 Spalacinae;
 rat
 (Capreolus
 Spalax
 0
 0;
 Gaps
 Gaps
 0
 0
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RESULT 15
Q9N1S1
ID Q9N1S
AC Q9N1S
DT 01-OC
DT 01-OC
DT 01-MAGCU
GN VEGF.
OS Capre
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 Query Match
Best Local S
Matches 23
 Query Match
Best Local Similarity
Matches 23; Conserv
 HSSP; P49763; 1FZV.

InterPro; IPR002400; GF_cysknot.
InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.

PRINTS; PR00438; GFCYSKNOT.
ProDom; PD001629; PD_growth_factor; 1.
SNART; SM00141; PDGF; 1.

PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS00249; PDGF_2; 1.
PROSITE; PS50278; PDGF_2; 1.
 Q9N1S1;
Q9N1S1;
01-OCT-2000
01-OCT-2000
01-MAR-2003
 PROSITE;
PROSITE;
NON_TER
 NON_TER
 SEQUENCE
 InterPro; IPR000072; PD_growth_factor. Pfam; PF00341; PDGF; 1. ProDom; PD001629; PD_growth_factor; 1. SMART; SM00141; PDGF; 1.
 Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases EMBL; AF250375; AAF75258.1; ... HSSP; P49763; 1FZV.
 Ovis aries (Sheep).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea

Bovidae; Caprinae; Ovis.
 01-OCT-2000 (TrEMBLrel. 15,
01-OCT-2000 (TrEMBLrel. 15,
01-MAR-2003 (TrEMBLrel. 23,
Vascular endothelial growth
 Q9MZB1;
 Q9MZB1
 SEQUENCE
 Vascular endothelial growth VEGF.
 TISSUE=Placental artery endothelium;
Zheng J., Tsoi S.C., Magness R.R.;
"Growth factor expression in ovine fetal placental artery endothelial
 SEQUENCE FROM N.A.
 NCBI_TaxID=9940;
 Local Similarity
 58
 25
 23;
 PS00249; PDGF_1; 1.
PS50278; PDGF_2; 1.
 CNDEGLESVPTEESNITMQIMRIKPH 26
 CNDESLECVPTEEFNITMQIMRIKPH 50
 118 AA; 13931 MW; 757DC53AA56378A6 CRC64;
 78 78
78 AA; 9131 MW;
 (TrEMBLrel. 15, Created)
(TrEMBLrel. 15, Last sequence update)
(TrEMBLrel. 23, Last annotation update)
dothelial growth factor isoform 165 (Fragment).
 Conservative
 Conservative
 PRELIMINARY;
 PRELIMINARY;
 87.7%;
88.5%;
 87.7%;
 Created)
Last sequence update)
Last annotation update)
factor (Fragment).
 0; Mismatches
 0; Mismatches
 Score 121; DB 6; Pred. No. 1e-11;
 Score 121; DB 6;
Pred. No. 1.6e-11;
 7EE20DDFFC17847C CRC64;
 PRT;
 PRT;
 118
 123
 Ä
 B
 Length 78;
 Length 118;
 Pecora; Bovoidea;
 Indels
 Indels
 0;
 °,
 Gaps
 Gaps
 0
 0
```

Capreolus capreolus (Roe deer).

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 S
 Query Match
Best Local S
Matches 23
 NON TER
NON TER
SEQUENCE
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidea; Cervidae; Odocoileinae; Capreolus. NCBI_TaxID=9858;
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
NON TEE
 Anim. Reprod. Sci. 64:65-75(2000).

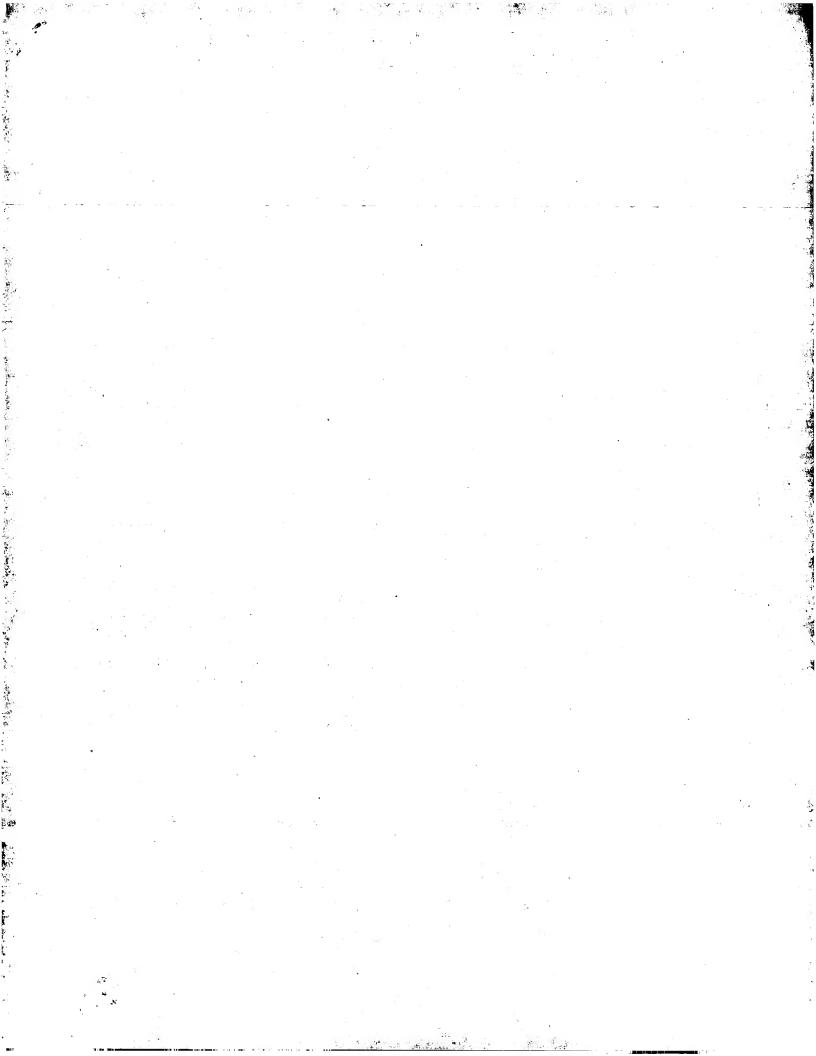
EMBL; AF152594; AAF73233.1; -.

HSSP; P49763; IFZV.

InterPro; IPR000072; PD_growth_factor.

Dfam. DF00341; DGG: 1
 capreolus).";
 Wagener A., Blottner
 MEDLINE=20532861; PubMed=11078967;
 SEQUENCE FROM N.A.
 Pfam; PF00341; PDGF; 1.
 Detection of growth
25
 23;
 1 CNDEGLESVPTEESNITMQIMRIKPH 26
 Similarity
CNDESLECVPTEEFNITMQIMRIKPH
 123
123 AA;
 87.7%;
nilarity 88.5%;
Conservative (
 14354 MW; 0A756F54105A4CE1 CRC64;
 factors in the
 S., Goritz F.,
 0,
 Score 121; DB Pred. No. 1.7e 0; Mismatches
 testis
 Fickel
 DB 6;
.7e-11;
 of ;
 roe
 Length 123;
 Indels
 deer (Capreolus
 <u>,,</u>
 Gaps
 0
```

Search completed: January 30, 2004, 11:44:41 Job time : 26.9333 secs



```
Database
 Minimum DB seq length: 0
Maximum DB seq length: 2000000000
 Post-processing: Minimum Match 0%
 Total number of hits satisfying chosen parameters:
 Scoring table:
 Sequence:
 Perfect score:
 Title:
 Run on:
 OM protein - protein search, using sw model
 A_Geneseq_19Jun03:*

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9: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:*

10: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:*
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Gapop 10.0 , Gapext 0.5
 1107863 seqs, 158726573 residues
 US-09-266-543-8
71
 January 30, 2004, 11:27:08;
SIDSI/gcgdata/geneseq/geneseqr-embl/AA198.DAT:

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SIDSI/gcgdata/geneseq/geneseqr-embl/AA200.DAT:

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SIDSI/gcgdata/geneseq/geneseqr-embl/AA200.DAT:

SIDSI/gcgdata/geneseq/geneseqr-embl/AA200.DAT:
 Maximum Match 100%
Listing first 45 summaries
 CNDEGLESVPTEE 13
 Copyright
 GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
 ; Search time 17.8 Seconds (without alignments) 115.924 Million cell updates/sec
 1107863
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

| Regult<br>No. | Score | Query<br>Match Length DB | Length | DB | Ħ        | Description        |
|---------------|-------|--------------------------|--------|----|----------|--------------------|
| ב             | 71    |                          | 13     | 21 | AAB18549 | Immunogenic peptid |
| N             | 71    | 100.0                    | 26     | 21 | AAB18548 | Immunogenic peptid |
| ω             | 66    | 93.0                     | 65     | 17 | AAR94035 | VEGF exon III. Ho  |
| 4             | 66    | 93.0                     | 66     | 14 | AAR42609 | Encoded by human V |
| ر.<br>ت       | 66    | 93.0                     | 94     | 22 | AAU04521 | Human VEGF amino a |
| ტ             | 66    | 93.0                     | 101    | 24 | AAE32330 | Human VEGF-A recep |
| 7             | 66    | 93.0                     | 102    | 22 | AAU08484 | VEGFR-1 binding ep |
| æ             | 66    | 93.0                     | 105    | 21 | AAB53387 | Human colon cancer |
| ø             | 66    | 93.0                     | 105    | 22 | AAU08407 | Polypeptide encode |
|               |       |                          |        |    |          |                    |

| 45       | 4.       | 7 1      | 4 :                | 4 ,                | 40                 | 9                  | 38<br>8            | 37                 | 36                 | 35                 | 34                 | 33                 | 32                 | 31       | 30                 | 29       | 28       | 27                 | 26                | 25                 | 24                 | 23                 | 22                                                                              | 21        | 20       | 19         | 18                | 17        | 16       | 15                 | 14                 | 13                 | 12                 | 11   | 10                 |  |
|----------|----------|----------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------|--------------------|----------|----------|--------------------|-------------------|--------------------|--------------------|--------------------|---------------------------------------------------------------------------------|-----------|----------|------------|-------------------|-----------|----------|--------------------|--------------------|--------------------|--------------------|------|--------------------|--|
| 60       | თ ი      | y (      | y (                | D (                | D 0                | 9                  | 66                 | 66                 | 66                 | 66                 | 66                 | 66                 | 66                 | 66       | 66                 | 66       | 66       | 66                 | 66                | 66                 | 66                 | 66                 | 66                                                                              | 66        | 66       | 66         | 66                | 66        | 66       | 66                 | 66                 | 66                 | 66                 | 66   | 66                 |  |
| 93.0     | 93.0     | 0        | 9 0                | 0 0                | 93.0               | 93.0               | 93.0               | 93.0               | 93.0               | 93.0               | 93.0               | 93.0               | 93.0               | 93.0     | 93.0               | 93.0     | 93.0     | 93.0               | 93.0              | 93.0               | 93.0               | 93.0               | 93.0                                                                            | 93.0      | 93.0     | 93.0       | 93.0              | 93.0      | 93.0     | 93.0               | 93.0               | 93.0               | 93.0               | 93.0 | 93.0               |  |
| 145      | 145      | 145      | 145                | 141                | 129                | 129                | 128                | 128                | 127                | 127                | 127                | 126                | 121                | 121      | 121                | 121      | 121      | 121                | 121               | 121                | 121                | 121                | 121                                                                             | 121       | 121      | 110        | 110               | 110       | 110      | 110                | 105                | 105                | 105                | 105  | 105                |  |
| 21       | 21       | 3 !      | 19                 | 2 1                | 21                 | 22                 | 22                 | 22                 | 22                 | 22                 | 22                 | 22                 | 24                 | 24       | 22                 | 21       | 20       | 20                 | 19                | 17                 | 17                 | 17                 | 17                                                                              | 14        | 12       | 23         | 22                | 22        | 21       | 21                 | 22                 | 22                 | 22                 | 22   | 22                 |  |
| AAY83034 | AAY69413 | AAV08279 | AAWS6693           | ABG71756           | AAU08435           | AAU08431           | AAU08419           | AAU08415           | AAU08427           | AAU08423           | AAU08405           | AAU08403           | AAE32329           | ABB84619 | AAB50428           | AAY99848 | AAY08278 | AAY23943           | AAW40597          | AAR93977           | AAR96043           | AAW03677           | AAW09091                                                                        | AAR42607  | AAR11385 | ABB76304   | AAB50436          | AAG79276  | AAY83038 | AAY69417           | AAU08477           | AAU08475           | AAU08473           | 7    | AAU08411 ;         |  |
| vascu    | acid se  |          | Vascular endotheli | Himan vascular end | Polymentide encode | Polypeptide encode | Human vascular end | ٠        | Mature human vascu | vascula  | growt    | Amino acid sequenc | VEGF/VPF121. Homo | Vascular permeabil | Human vascular per | Vascular permeabil | SE<br>SE<br>SE<br>SE<br>SE<br>SE<br>SE<br>SE<br>SE<br>SE<br>SE<br>SE<br>SE<br>S | VEGF-121. | vascular | vascular e | Human VEGF110. Ho | ry sequen | vascu    | Amino acid sequenc | Polypeptide encode | Polypeptide encode | Polypeptide encode |      | Polypeptide encode |  |

### ALIGNMENTS

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RESULT 1
AAB18549
AAB18549 standard; peptide; 13
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Immunogenic peptide fragment derived from FGF and/or VEGF.

15-JAN-2001 AAB18549;

(first entry)

Immunogenic peptide; fibroblast growth factor; PGF; VEGF; cancer; vascular endothelial growth factor; hyperproliferative disorder; haemangioma; solid tumour; blood borne tumour; leukamiam; metastasis; telangiectasia; pooriasis; seleroderma; pyogenic granuloma; myocardial angiogenesis; Crohn's disease; plaque neovascularisation; arteriovenous malformation; corneal disease; rubeosis; neovascular glaucoma; diabetic retinopathy; retuned fibroplasia; arthritis; diabetic neovascularisation; macular degeneration; wound healing; peptic ulcer; Helicobacter related disease; fracture; keloid; vasculogenesis; hematopoiesis; ovulation; menstruation;

Unidentified. placentation; cat

**scratch** 

tever

WO200053219-A2

14-SEP-2000

10-MAR-2000; 2000WO-US06320

11-MAR-1999; 99US-0266543

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ARESULT 2
AAB18548
ID AAB1
XX AAB1
XX AAB1
XX Immu
XX
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 S
 Matches
 Query Match
 growth factor (FGF) and/or vascular endothelial growth factor (VBGF). The peptides are used to produce immunogenic compositions. The immunogenic composition is used for treating cancer or hyperproliferative disorders, especially haemangioma, solid tumours, blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis, scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's disease, plaque neovascularisation, arteriovenous malformations, corneal diseases, rubeosis, neovascular glaucoma, diabetic retinopathy, retrolental fibroplasia, arthritis, diabetic neovascularisation, macular degeneration, wound healing, peptic ulcer, Helicobacter related diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation, menstruation, placentation and cat scratch fever.
 neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia; arthritis; diabetic neovascularisation; macular degeneration; wound healing; peptic ulcer; Helicobacter related disease; fracture; keloid; vasculogenesis; hematopolesis; ovulation; menstruation;
 An immunogenic composition useful for treating cancer or hyperproliferative disorders comprises an immunogenic peptide fragment of fibroblast growth factor and/or vascular endothelial growth factor
 Holaday
 11-MAR-1999;
 10-MAR-2000; 2000WO-US06320.
 14-SEP-2000
 WO200053219-A2
 Unidentified.
 placentation;
 myocardial angiogenesis; Crohn's disease; plaque neovascularisation; arteriovenous malformation; corneal disease; rubeosis;
 haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis; telangiectasia; psoriasis; scleroderma; pyogenic granuloma;
 Immunogenic peptide; fibroblast growth factor; FGF; VEGF; cancer; vascular endothelial growth factor; hyperproliferative disorder;
 Immunogenic peptide
 15-JAN-2001
 AAB18548
 AAB18548 standard;
 Sequence
 AAB18542-51 represent
 Holaday
 (ENTR-)
 (ENTR-) ENTREMED INC.
 Local
 13;
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 Similarity
 ENTREMED
 CNDEGLESVPTEE
 CNDEGLESVPTEE
 Page
 13 AA;
 Conservative
 Ruiz
 (first entry)
 Ruiz A,
 28; 95pp; English
 99US-0266543
 Þ
 scratch
 peptide;
 fragment derived from FGF and/or VEGF
 100
 immunogenic
 Madsen
 13
 Madsen
 .0%;
 fever
 ogenic peptide fragments of fibroblast
 26
 0
 Ç
 ij
 Score 71; DB ZI,.
Pred. No. 1.2e-05;
 A
 DB 21; Length 13;
 0,
 Gaps
 0,
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ARBSULT 3
ARA94035
ID AARS
XX AAA9
AC AAA9
AC VEGF
XX VEGF
XX VASC
CKW VASC
CKW CODD
KW CODD
KW CODD
KW WO96
AC VASC
CKW OPTO
DE VOSE
CKW OPTO
DE VEGF
XX VASC
CKW OPTO
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 Query Match
Best Local S
Matches 13
 growth factor (FGF) and/or vascular endothelial growth factor (VEGF). The peptides are used to produce immunogenic compositions. The immunogenic composition is used for treating cancer or hyperproliferative disorders, especially haemangioma, solid tumours, blood borne tumours, leukaemia, metastasis, telangicetasia, psoriasis, scleroderma, pyogenic granuloma, metastasis, telangicetasia, psoriasis, scleroderma, pyogenic granuloma, arteriovenous malformations, corneal disease, rubeosis, neovascular glaucoma, diabetic retinopathy, retrolental fibroplasia, arthritis, diabetic neovascularisation, macular degeneration, wound healing, peptic ulcer, Helicobacter related diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation, menstruation, placentation and cat scratch fever.
 Vascular endothelial growth factor; VEGF; human; conjugate; tumour; iris; proliferation inhibition; VEGF-mediated pathophysiological condition; dermatological disorder; VEGF receptor; vascular proliferation; retina; ophthalmic disorder; hyperproliferating blood vessel; therapy; psoriasis; conjunctiva; vitreous humour; rheumatoid arthritis; skin cancer;
 Vascular endothelial cell growth factor (VEGF) conjugates - having VEGF linked to targeted agent, used for inhibiting proliferation of cells, e.g. for gene therapy
 An immunogenic composition useful for treating cancer or hyperproliferative disorders comprises an immunogenic peptide fragment of fibroblast growth factor and/or vascular endothelial growth factor
 WPI; 2000-594263/56.
 Fleurbaaij
 16-MAY-1995;
29-AUG-1994;
 29-AUG-1995;
 07-MAR-1996
 WO9606641-A1
 Homo sapiens.
 varicose veins;
 10-OCT-1996
 AAR94035;
 AAR94035
 Sequence
 AAB18542-51 represent immunogenic peptide fragments growth factor (FGF) and/or vascular endothelial gro
 Claim 13; Page 28; 95pp; English.
 Victor
 VEGF exon III
 (PRIZ-) PRIZM
 1996-160151/16.
DB; AAT17743.
 13;
 ĕ
 ъ
 _
 Similarity
 standard; Protein; 65
 CNDEGLESVPTEE 13
 CNDEGLESVPTEE 13
 9
 26
 Conservative
 (first entry
 AA;
 PHARM INC.
 95US-0441979.
94US-0297961.
 95WO-US10973.
 gene therapy
 Freund E,
 100.0%;
 Houston LL,
 0;
 Score 71;
Pred. No.
 A
 Mismatches
 . 2.5e-05;
ches 0;
 Nova MP,
 В
 21;
 Length
 Indels
 Sosnowski BA;
 of fibroblast
 0
 Gaps
 macular
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0

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AAR42609
 Query Match
Best Local
 Matches
 27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
 III. These sequences were used in VEGF conjugates of the invention. In the conjugates, VEGF (or fragments of it) are linked to a targeted agent (this can be via a linker sequence), so that the conjugate binds to a VEGF receptor. Cys-modified forms of VEGF are particularly suitable for chemical conjugation to linkers and targeted agents. The conjugates are used for treating proliferation of cells bearing VEGF receptors. They can be used for treating a VEGF-mediated pathophysiological condition, including dermatological disorders with underlying vascular proliferation, solid tumours or an ophthalmic disorder of hyperproliferating blood vessels of the retina, iris, conjunctiva or vitreous humour. The conjugates can also be used for treating psoriasis, rheumatoid arthritis, skin cancers and other tumours, or
The sequences of the 8 possible exons encoding human vascular endothelial cell growth factor, together with contiguous splice junctions, were obtained from overlapping genomic inserts. A met
 Claim 8; Fig 8; 40pp; English.
 Isolated DNA sequences, expression vectors and transformant cells - used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
 WPI; 1993-205302/25
 Abraham
 27-JUL-1990;
 US5219739-A.
 Homo sapiens
 Angiogenesis; wound healing; mitogen; vascular endothelial cells; Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121;
 Encoded by human VEGF-165 exon III
 25-MAR-2003
28-OCT-1993
 AAR42609;
 AAR42609 standard; Protein;
 Sequence
 endothelial growth
 Disclosure; Page
 15-JUN-1993.
 (SCIO-)
 47
 _
 JA,
 AAQ49605
 Similarity
 SCIOS
 CNDEGLECVPTEE 59
 CNDEGLESVPTEE
 veins. They are also suitable for use in gene therapy
 65 AA;
 RNA splicing.
 Conservative
 Fiddes JC,
 (updated)
(first entry)
 NOVA INC
 89US-0387545.
89US-0450883.
90US-0559041.
 90US-0559041
 AAR94041,
 119; 193pp; English.
 AR94041, AAR94042 and AAW00582 represent vascular factors (VEGF) exons. This sequence represents
 93.0%;
 Mitchell RL,
 66
 <u>.</u>
 Score 66; DB 17;
Pred. No. 0.00051;
 B
 Mismatches
 Tischer
 This sequence represents exon
 Length
 Indels
 65
 A method
 0;
 Gaps
 0
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RESULT 5
AAU04521
ន្តន្តន្តន្ត្
 밁
 S
 The sequence represents Human VEGF (vascular endothelial growth factor)
CC amino acids Ly942-Asp135. The sequence is used in a method of producing
CC amino acids Ly942-Asp135. The sequence is used in a method of producing
CC amonomeric monocyclic peptide by a measuring beta-beta carbon separation
CC distances on opposite antiparallel strands of a peptide loop fragment
CC from an exposed loop of a growth factor protein and cyclising the peptide
CC by oxidising the cysteine residues. The monocyclic peptides, and a cyclic
CC bicyclic peptides (comprising 2 linked monocyclic peptides) and a cyclic
CC peptide with at least one amino acid deleted prior to cyclisation are
CC used to interfere with angiogenesis, neovascularisation or
CC lymphangiogenesis in a mammal with a condition characterised by
CC angiogenesis, neovascularisation or lymphangiogenesis. The condition is
CC diabetic retinopathy, psoriassis, arthropathy, hemangioma, vascularised
CC malignant or benign tumour, post-recovery cerebrovascular accident,
CC post-angioplasty restencess, head, heat or cold trauma, substance-induced
CC neovascularisation of the liver, excessive hormone-related angiogenic
CC dystinction, diabetes induced neovascular sequelae, hypertension induced
CC neovascularise function of the condition of the modular sequelae, or chronic liver infection. The peptides are also
 Matches
 Best Local
 Query Match
 neovascularisation; lymphangiogenesis; psoriasis; diabetes induced neovascular sequelae; rheumatoid diabetic retinopathy; chronic inflammation.
 Sequence
 for producing VEGP is claimed comprising culturing mammalian cells transformed with an expression vector containing exons I-V and VIII. See AAQ44261 for exon I and AAQ49604-Q49610 for exons II-VIII (Updated on 25-MAR-2003 to correct PF field.)
 Novel monomeric monocyclic peptide, used to interfere with angiogenesis, or lymphangiogenesis, is produced by cyclising a loop fragment from an exposed loop of a growth factor protein between the control of the contr
 18-JAN-2000;
16-MAY-2000;
 WO200152875-A1
 Human; VEGF; vascular endothelial growth factor; angiogenesis;
 Human VEGF amino acids Lys42-Asp135
 26-SEP-2001
 AAU04521;
 AAU04521 standard; protein;
 Example 1;
 Achen MG,
 18-JAN-2001; 2001WO-US01533.
 Homo sapiens.
 (LUDW-) LUDWIG INST CANCER RES
 48
 12;
 1 CNDEGLESVPTEE 13
 Similarity
 CNDEGLECVPTEE
 Page
 Hughes RA,
 66 AA;
 Conservative
 2000US-0176293.
2000US-0204590.
 (first entry
 cysteine
 90; 102pp; English.
 93.0%;
 residues
 Stacker S,
 94
 Score 66; DB 14;
Pred. No. 0.00052;
 B
 Mismatches
 Cendron
 Length 66;
 Indels
 <u>,</u>
 II-VIII.
 peptide
 Gaps
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0,

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Matches
 Query Match
 The invention relates to a fusion protein comprising non-heparin binding vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF peptide portion and a non-VEGF peptide portion beeful for promoting angiogenesis and/or bone growth in mammalian host. The fusion protein is useful for promoting angiogenesis, wound healing and bone growth. Compositions containing bone growth in promoting fusion protein can be used to treat osteoporosis, rheumatoid or osteoarthritis, to improve poor bone healing, to promote implant integration and function of artificial joints and to facilitate bone reconstruction. They can also be used to treat e.g. ulcers, lesions, injuries, burns, trauma, periodontal conditions, lacerations and other conditions. The invention is also useful in protein therapy. The present sequence is human VEGF-A receptor binding domain.
 condition characterised by fluid accumulation in peripheral limbs or in lungs, peritoneal cavity, pleura, or brain. The peptides are used to image blood vessels and lymphatic vasculature. The monomeric and bicyclic peptides are used to interfere with at least one biological activity induced by VEGF, VEGF-C or -D and are also used in combination with an anti-inflammatory agent, to treat a chronic inflammation, especially rheumatoid arthritis, psoriasis and diabetic retinopathy.
 Vascular endothelial growth factor; VEGF; angiogenesis; wound healing; bone growth; osteoporosis; osteoarthritis; bone reconstruction; ulcer; lesion; injury; trauma; periodontal condition; protein therapy; human.
 Disclosure; Page 118-119; 191pp; English.
 New fusion protein comprising a non-heparin-binding vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF peptide portion, useful for promoting angiogenesis and/or bone growth in
 WPI; 2003-075536/07
 Kovesdi
 10-APR-2002; 2002WO-US11406
 24-OCT-2002
 WO200283851-A2
 Homo sapiens.
 Human VEGF-A receptor binding domain.
 24-MAR-2003
 AAE32330;
 AAE32330 standard; Protein;
 Sequence
 (GENV-)
 10-APR-2001; 2001US-0832355
 Local
 46
 12;
 1 CNDEGLESVPTEE
 GENVEC INC
 Similarity
 CNDEGLECVPTEE 58
 94 AA;
 Kessler
 Conservative
 (first entry)
 PD;
 93.0%;
 13
 101 AA.
 0
 Score 66; DB Pred. No. 0.00 0; Mismatches
 No.
 B
 .00077;
 22;
 1; Indels
 Length
 94
 0
 Gaps
 0
```

밁 Ś

.)

Best Local Similarity

93.0%; 92.3%;

Score Pred.

N 66;

DB 24; 0.00083;

Length 101;

RESULT 8

0

Query Match

Sequence

101

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밁
 S
밁
 S
 Matches
 Matches
 Query Match
Best Local
 receptors for vascular endothelial growth factors (VEGFs), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculagenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiogenesis,
 proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGFs.
 VEGFR-1 binding epitope from
 Sequence
 Example 4; Page 115; 261pp; English
 Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them -
 WPI; 2001-536640/59.
 Alitalo K,
 (LUDW-)
 25-FEB-2000;
18-MAY-2000;
 26-FEB-2001; 2001WO-US06113.
 30-AUG-2001.
 WO200162942-A2.
 Homo sapiens.
 cardiovascular; VEGFR-1.
 angiogenesis; blood vessel; cancer; proliferative retinon psoriasis; age-related macular degeneration; rheumatoid
 Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy;
 21-NOV-2001
 AAU08484;
 AAU08484 standard;
 The present invention relates to polypeptides that bind cellular
 present sequence represents VEGFR-1 binding epitope from human
 53
54
 12;
 _
 12;
 factors, polynucleotides
 LUDWIG INST CANCER RES
 Similarity
 CNDEGLECVPTEE 65
 CNDEGLESVPTEE
 CNDEGLESVPTEE 13
CNDEGLECVPTEE 66
 102
 Jeltsch
 Conservative
 Conservative
 2000US-0185205.
2000US-0205331.
 (first entry
 Æ
 Peptide;
 3
 93.0%;
92.3%;
 13
 102
 ٠,0
 0
 Score 66; DB 22;
Pred. No. 0.00084;
 human VEGF-A.
 Mismatches
 Mismatches
 1;
 1;
 Length 102;
 Indels
 0
 0
 Gaps
 Gaps
```

```
RESULT 9
AAU08407
 밁
 ş
AXU
 AAC97991 to AAC98763 encode the human colon cancer associated proteins, CC called human colon cancer antigens, given in AAB53234 to AAB54006. The human colon cancer antigens, given in AAB53234 to AAB54006. The cc human colon cancer antigens can have cytostatic, cardioactive, muscular; neuroprotective, immunomodulatory, gynaecological, gastrointestinal, CC vulnerary, nephrotropic, antiinfective and antibacterial activities, and CC can be used in gene therapy. The colon cancer antigen polymucleotides, and CC croteins and antibadies to the proteins are useful for the prevention, treatment and diagnosis of colon disorders, such as colon cancer. The CC polymucleotides may be used in diagnostics and research, such as for CC chromosome identification, and as hybridisation probes. The proteins may also be used to prevent diseases such as neural disorders, immune consoners in the colon cancer, reproductive disorders, infectious consoners, and cardiovascular disorders, reproductive disorders, infectious consoners, and cardiovascular disorders. AAC98764 to AAC98772 and AAB54007 represent sequences used in the exemplification of the present cardiovascular disorders.
 Query Match
Best Local Similarity
 Matches
AAU08407;
 AAU08407 standard;
 Sequence
 Colon cancer associated gene sequences, referred to as colon cancer antigens, useful for the treatment, prevention, and diagnosis of colon disorders such as colon cancer -
 WPI; 2000-587534/55
 12-MAR-1999;
 08-MAR-2000; 2000WO-US05883
 21-SEP-2000.
 WO200055351-A1
 neural disorder; immune system disorder; muscular disorder; reproductive disorder; gastrointestinal disorder; renal disorder; infectious disease; cardiovascular disorder.
 identification; cytostatic; cardioactive; neuroprotective; vulnerary;
immunomodulatory; muscular; gynaecological; gastrointestinal;
nephrotropic; antiinfective; antibacterial; gene therapy; wound;
 Human colon cancer antigen protein sequence SEQ ID NO:927
 09-MAR-2001
 AAB53387;
 AAB53387 standard; Protein; 105 AA
 (HUMA-) HUMAN GENOME SCI INC
 dentification; cytostatic;
 11; Page 1486; 2104pp; English.
 3
 12;
 colon cancer; colon cancer antigen;
 1 CNDEGLESVPTEE 13
 CNDEGLECVPTEE 57
 105 AA;
 Conservative
 (first entry)
 99US-0124270
 Protein; 105
 93.0%;
 0,
 Score 66;
Pred. No.
 8
 Mismatches
 DB 21;
0.00087;
 diagnosis; detection;
 Length 105;
 Indels
 <u>,</u>
 Gaps
 0
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```
RESULT 10
AAU08411
 멼
 Ś
 Matches
 Query Match
 The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFs), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid
 Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them - \,
 Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis;
21-NOV-2001
 AAU08411;
 AAU08411 standard; Protein; 105 AA
 Sequence
 proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGFs.
 Claim 35; Page 182; 261pp; English.
 N-PSDB;
 Alitalo K, Jeltsch MM;
 25-FEB-2000;
18-MAY-2000;
 26-FEB-2001; 2001WO-US06113
 Synthetic.
 Homo sapiens.
 cardiovascular; VEGF-C; mutant; mutein.
 21-NOV-2001
 The present sequence represents the polypeptide encoded by human VEGF-A/VEGF-C hybrid construct clone 12-1.
 WPI; 2001-536640/59.
 (LUDW-) LUDWIG INST CANCER RES (LICN) LICENTIA OY.
 WO200162942-A2
 Local Similarity
 54
 12;
 1 CNDEGLESVPTEE 13
 AAS12844
 CNDEGLECVPTEE
 105 AA;
 encoded by human VEGF-A/VEGF-C hybrid clone 12-1.
 Conservative
 (first entry)
 2000US-0185205.
2000US-0205331.
(first entry)
 Location/Qualifiers
1..102
 /note= "VEGF receptor binding domain"
 93.0%;
92.3%;
 Score 66; DB 22;
Pred. No. 0.00087;
0; Mismatches 1
 Length 105
 <u>,</u>
 Gaps
```

```
RESULT 11
AAU08467
ID AAU08
XX
AC AAU08
XX
AC AAU08
XX
DT 21-NC
XX
DE Polyi
 밁
 Ś
 The present invention relates to polypeptides that bind cellular creeptors for vascular endothelial growth factors (VEGFs), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cells regulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGFs.

The present sequence represents the polypeptide encoded by human VEGF-A/VEGF-C hybrid construct clone 12-5.
 Matches
 Query Match
 Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 14-9.
 21-NOV-2001
 AAU08467;
 AAU08467 standard; Protein;
 Sequence
 Claim 36; Page 186-187; 261pp; English.
 Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them -
 Alitalo K, Jeltsch MM
 25-FEB-2000;
18-MAY-2000;
 26-FEB-2001; 2001WO-US06113
 30-AUG-2001.
 WO200162942-A2
 Domain
 Key
 Synthetic
 Homo sapiens
 cardiovascular; VEGF-C; mutant; mutein.
 Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis;
 Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-5
 (LICN)
 2001-536640/59
)B; AAS12848.
 л
4.
 LUDWIG INST CANCER RES
 Similarity
 CNDEGLECVPTEE 66
 CNDEGLESVPTEE 13
 105
 Conservative
 2000US-0185205.
2000US-0205331.
 (first entry)
 B
 Location/Qualifiers
 "VEGF receptor binding domain"
 Score 66; DB:
Pred. No. 0.000
0; Mismatches
 105 AA
 <u>,,</u>
 .00087;
 22; Length 105;
 Indels
 0
 Gaps
 0
```

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RESULT 12
AAU08473
ID AAU08
XX
AC AAU08
XX
AC AAU08
DT 21-NC
XX
Polyp
XX
KW Human
KW angio
KW psori
KW cardi
XX
 밁
 S
 The present invention relates to polypeptides that bind cellular CC receptors for vascular endothelial growth factors (VEGFs), the Cross polynucleotides encoding them, and their use for identifying agents that CC modulate interactions between VEGFs and their receptors. VEGFs and their receptors. VEGFs and their receptors. Telephonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from CC pre-existing ones. Modulators of interactions between VEGF and its Cregulatory system. Such disorders include cancers, abnormal angiogenesis, corpolatory system. Such disorders include cancers, abnormal angiogenesis, CC proliferative retinopathies, age-related macular degeneration, rheumatoid archirits and psoriasis. The polypeptides of the invention exhibit unique Creceptor binding profiles compared to known naturally occurring VEGFs.

CC The present sequence represents the polypeptide encoded by human CC VEGF-A/VEGF-C hybrid construct clone 14-9.
 Matches
 Query Match
Best Local
 Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VEGF-C; mutant; mutein.
 Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VEGF-C; mutant; mutein.
 WPI; 2001-536640/59.
N-PSDB; AAS12886.
 Polypeptide encoded
 21-NOV-2001
 AAU08473;
 AAU08473 standard; Protein; 105
 Sequence
 Claim 42; Page 249; 261pp; English.
 Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them -
 Alitalo
 25-FEB-2000;
18-MAY-2000;
 26-FEB-2001; 2001WO-US06113
 30-AUG-2001
 WO200162942-A2
 Homo sapiens.
Synthetic.
 (LUDW-) LUDWIG INST CANCER RES
 54
 12;
 <u>ب</u>
 Similarity
 ,
 CNDEGLESVPTEE 13
 CNDEGLECVPTEE 66
 105 AA;
 Jeltsch
 Conservative
 2000US-0185205.
2000US-0205331.
 (first entry)
 by human
 3
 93.0%;
 0
 VEGF-A/VEGF-C hybrid clone
 Score 66; DB 22; 1
Pred. No. 0.00087;
0; Mismatches 1;
 ₹
 Length 105
 Indels
 82-9
 0
 Gaps
 0
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RESULT 13
AAU08475
 PRINCE EXECUTE AND SOURCE FOR THE SECOND SOU
 Ś
 맑
 CC The present invention relates to polypeptides that bind cellular CC receptors for vascular endothelial growth factors (VEGF8), the CC polynucleotides encoding them, and their use for identifying agents that CC modulate interactions between VEGF8 and their receptors. VEGF8 and their receptors play an important role in vasculogenesis, the development of CC the embryonic vasculature from early differentiating endothelial cells CC and angiogenesis, the process of forming new blood vessels from CC pre-existing ones. Modulators of interactions between VEGF and its CC receptors may be used to treat dysfunction of the endothelial cell CC regulatory system. Such disorders include cancers, abnormal angiogenesis, CC proliferative retinopathies, age-related macular degeneration, rheumatoid CC arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGF8.

CC The present sequence represents the polypeptide encoded by human CC VEGF-A/VEGF-C hybrid construct clone 82-9.
 Best Local
Matches
 Query Match
30-AUG-2001
 WO200162942-A2
 Synthetic.
 Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VEGF-C; mutant; mutein.
 Polypeptide
 21-NOV-2001
 AAU08475 standard; Protein; 105 AA.
 Sequence
 Claim 48; Page 255-256; 261pp; English.
 Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them - \,
 WPI; 2001-536640/59
 Alitalo K, Jeltsch MM
 25-FEB-2000; 2000US-0185205.
18-MAY-2000; 2000US-0205331.
 26-FEB-2001; 2001WO-US06113
 30-AUG-2001
 WO200162942-A2
 Homo sapiens.
Synthetic.
 Homo sapiens.
 (LUDW-) LUDWIG INST CANCER RES
 54
 \vdash
 Similarity
 LICENTIA OY
 AAS12892
 CNDEGLECVPTEE 66
 CNDEGLESVPTEE 13
 105 AA;
 encoded by human VEGF-A/VEGF-C hybrid clone
 Conservative
 (first entry)
 93.0%;
92.3%;
 0
 Score 66; DB 22;
Pred. No. 0.00087
 Mismatches
 DB 22; Length 105
 Indels
 0
 Gaps
 0
```

```
RESULT 14
AAU08477
밁
 Ś
 Query Match
Best Local S
Matches 12
 The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFS), the polypucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculagenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell repulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique
 Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them - \,
 Synthetic
 psoriasis; age-related macular degeneration; rheumatoid
cardiovascular; VEGF-C; mutant; mutein.
 Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy;
 AAU08477 standard; Protein;
 Sequence
 receptor binding profiles compared to known naturally occurring VEGFs. The present sequence represents the polypeptide encoded by human VEGF-A/VEGF-C hybrid construct clone 82-13.
 Claim 50; Page 258; 261pp; English.
 25-FEB-2000;
18-MAY-2000;
 26-FEB-2001;
 30-AUG-2001
 WO200162942-A2
 Homo sapiens
 21-NOV-2001
 N-PSDB; AAS12894.
 Alitalo K,
 (LUDW-)
 26-FEB-2001; 2001WO-US06113.
 2001-536640/59
 54
 12;
 1 CNDEGLESVPTEE 13
 LUDWIG INST CANCER RES
 Similarity
 CNDEGLECVPTEE
 105 AA;
 Jeltsch MM
 encoded by human VEGF-A/VEGF-C hybrid clone
 Conservative
 2000US-0185205
2000US-0205331
 2001WO-US06113.
 (first entry)
 2000US-0185205.
2000US-0205331.
 93.0%;
92.3%;
 66
 105
 Score 66; DB 22;
Pred. No. 0.00087;
0; Mismatches 1
 ₿
 DB 22; Length 105;
 84-9
 0,
 Gape
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밁
 δ
 CC The present invention relates to polypeptides that bind cellular CC receptors for vascular endothelial growth factors (VEGFs), the collustrations for vascular endothelial growth factors (VEGFs), the collustrations between VEGFs and their receptors. VEGFs and their receptors vegens an important role in vasculagenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from CC pre-existing ones. Modulators of interactions between VEGF and its CC receptors may be used to treat dysfunction of the endothelial cells CC regulatory system. Such disorders include cancers, abnormal angiogenesis, recupitors may be used to treat dysfunction of the endothelial cell CC regulatory system. Such disorders include cancers, abnormal angiogenesis, CC proliferative retinopathies, age-related macular degeneration, rheumatoid CC archivitis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGFs.

CC The present sequence represents the polypeptide encoded by human CC VEGF-A/VEGF-C hybrid construct clone 84-9.
 Matches
 Query Match
Best Local :
 intravascular coagulation; thrombotic thrombocytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury; acute respiratory distress syndrome; pneumonia; pulmonary emboli; birth prematurity disorder; wound; allergy; hypersensitivity; autoimmune disease; organ transplant; focal glomerulosclerosis;
 Human; vascular endothelial growth factor; VEGF 110; angiogenic factor; blood vessel injury; vascular injury; microvascular angiopathy; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; coxic shock syndrome; venom; hypercoagulable state; platelet activation; platelet aggregation; thrombosis; preeclampsia; sepsis; pancreatis;
 (LICN)
09-SEP-1998;
26-MAR-1999;
 Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them - \,
 09-SEP-1999;
 16-MAR-2000.
 WO200013702-A2
 Homo sapiens.
 amyloidosis.
 Amino acid sequence of vascular endothelial growth factor 110.
 03-JUL-2000
 AAY69417 standard; Protein; 110 AA.
 Sequence
 Claim 52; Page 260; 261pp; English.
 2001-536640/59
DB; AAS12896.
 54
 l Similarity
12; Conserv
 1 CNDEGLESVPTEE 13
 LUDWIG INST CANCER RES. LICENTIA OY.
 CNDEGLECVPTEE
 105
 Conservative
 (first entry)
 AA,
98US-0099694.
99US-0126406.
 99WO-US20480
 93.0%;
 66
 Score 66; DB 22;
Pred. No. 0.00087;
0; Mismatches 1
 1; Indels
 Length 105;
 0
 Gaps
 0
```

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61

CNDEGLECVPTEE 73

Gaps

0

Search completed: Job time: 17.925

January 30, secs

2004, 11:40:08

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 CC factor (VEGF) 110. VEGF is an angiogenic factor. VEGF proteins are used CC for the prevention or repair of injury to blood vessels or associated CC nonvascular tissues (served by the blood vessels) and for the prevention CC and repair of vascular injury associated with microvascular angiopathy, or particularly thrombotic microangiopathy. The proteins methods may also be used for the prevention and treatment of kidney diseases associated CC with injury to, or atrophy of, the vasculature of the glomerulus and CC interstitium. Conditions which may be treated include haemolytic uremic typercoagulable states, platealet activation or aggregation, thrombosis, preeclampsia, thrombotic thrombocytopenia purpura, disseminated intravascular coagulation, ischemic bowel disease, transient ischemic myocardial infarction, ischemic bowel disease, transient ischemic compositium injury, acute respiratory distress syndrome, toxic alveolar conjury, pneumonia, pulmonary emboli, birth prematurity disorders, cc wounds, allergic reactions, hypersensitivity, autoimmune diseases, organ creating focal glomeruloscelerosis, and amyloidosis.
 Best Loc
Matches
 Query Match
 Novel methods and compositions for the prevention and treatment of microvascular angiopathies by administration of angiogenic factors as vascular endothelial growth factor (VEGF)
 Sequence
 Schreiner GF,
 27-MAR-1999;
 The present sequence represents native human vascular endothelial growth
 Disclosure; Fig 12; 46pp; English.
 Local
 μ
 l Similarity
12; Conserv
 CNDEGLESVPTEE 13
 110 AA;
 Conservative
 Johnson RJ
 9908-0126615.
 93.0%;
 0;
 Score 66; DB 21;
Pred. No. 0.00091;
 Mismatches
 Length 110;
 Indels
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 Result
 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
 Minimum DB
Maximum DB
 Title:
Perfect score:
 Database
 Total number of hits satisfying chosen parameters:
 Scoring table:
 OM protein - protein search, using sw model
 ö
 92:
 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.
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length: 2000000000
 Match Length
 Issued Patents AA:*

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5: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*
 January 30, 2004, 11:35:33 ; Search time 5.53333 Seconds (without alignments) 99.405 Million cell updates/sec
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 328717 seqs, 42310858 residues
 Gapop 10.0 ,
 CNDEGLESVPTEE
 Copyright
GenCore version 5.1.6 (c) 1993 - 2004 Compugen
 DB
 Gapext 0.5
 US-09-574-708A-4

US-09-037-983C-2

US-08-087-992B-1

US-09-92-932-1

US-08-706-054A-4

US-09-574-708A-2

US-09-513-299-4

US-09-244-583-24

US-09-244-583-24

US-08-802-816-3

US-08-802-052B-3

US-08-802-052B-3
 US-09-037-983C-15

US-09-037-983C-17

US-09-037-983C-16

US-09-519-476-2

US-09-519-476-2

US-08-784-551C-2

US-09-392-932-2
 US-09-244-583-12

US-08-691-794-3

US-09-392-932-11

US-09-574-708A-11

US-09-822-270-17
 5194596-19
5219739-20
 5219739-19
US-09-244-583-28
 SUMMARIES
 Sequence 12, Appl
Sequence 3, Appli
Sequence 11, Appl
Sequence 11, Appl
Sequence 17, Appl
Sequence 17, Appl
Patent No. 5194396
 Sequence 3, Appli
Sequence 3, Appli
Patent No. 5194596
Patent No. 5219739
 Patent No.
Sequence
 Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
 Sequence
Sequence
 Description
 Sequence
 15, Appl
17, Appl
16, Appli
2, Appli
2, Appli
2, Appli
4, Appli
1, Appli
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| 45                | 44                 | 43                 | 42                | 41                | 40                | 39         | 38                | 37                | 36        | 35                | 34                | 33                | 32                | 31                | 30                | 29                | 28                |
|-------------------|--------------------|--------------------|-------------------|-------------------|-------------------|------------|-------------------|-------------------|-----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 66                | 66                 | 66                 | 66                | 66                | 66                | 66         | 66                | 66                | 66        | 66                | 66                | 66                | 66                | 66                | 66                | 66                | 66                |
| 93.0              | 93.0               | 93.0               | 93.0              | 93.0              | 93.0              | 93.0       | 93.0              | 93.0              | 93.0      | 93.0              | 93.0              | 93.0              | 93.0              | 93.0              | 93.0              | 93.0              | 93.0              |
| . 231             | 215                | 215                | 215               | 215               | 215               | 214        | 213               | 208               | 191       | 191               | 191               | 191               | 191               | 191               | 191               | 191               | 191               |
| ທ                 | σ                  | σ                  | 4                 | ω                 | w                 | σ          | 4                 | 4                 | σ         | 4                 | 4                 | 4                 | 4                 | 4                 | ω                 | w                 | w                 |
| PCT-US96-09001-10 | 5240848-7          | 5219739-22         | US-09-699-769-49  | US-08-586-039B-49 | US-08-807-992B-3  | 5240848-11 | US-09-574-708A-8  | US-09-244-583-26  | 5332671-4 | US-08-802-052B-2  | US-09-574-708A-6  | US-08-882-816-2   | US-09-355-700-56  | US-09-392-932-3   | US-08-795-430-56  | US-08-691-794-2   | US-08-807-992B-2  |
| Sequence 10, Appl | Patent No. 5240848 | Patent No. 5219739 | Sequence 49, Appl | 49                | Sequence 3, Appli | 5          | Sequence 8, Appli | Sequence 26, Appl | 5         | Sequence 2, Appli | Sequence 6, Appli | Sequence 2, Appli | Sequence 56, Appl | Sequence 3, Appli | Sequence 56, Appl | Sequence 2, Appli | Sequence 2, Appli |

#### ALIGNMENTS

RESULT 1 US-09-244-583-12

Sequence 12, Application US/09244583 Patent No. 6479654

```
GENERAL INFORMATION:
APPLICANT: BAIRD, ANDREW
APPLICANT: BAIRD, GRAI
APPLICANT: ANDREASON, GRAI
TITLE OF INVENTION: NOVEL FORMS OF THE ANGIOGENIC FACTOR: VEGF
TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR: VEGF
FILE REFERENCE: 240/086
CURRENT APPLICATION NUMBER: US/09/244,583
CURRENT FILING DATE: 1999-02-04
EARLIER FILING DATE: 1999-02-06
PARLIER FILING DATE: 1998-02-06
NUMBER OF SEQ ID NOS: 29
SOPTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 12
LENGTH: 65
TYPE: PRT
 US-08-691-794-3
 밁
 S
 ; TYPE: PRT
; ORGANISM: Homo sapien
US-09-244-583-12
 RESULT 2
 GENERAL INFORMATION:
APPLICANT: Keyt, Bruce A.
APPLICANT: Nguyen, Francis H.
APPLICANT: Nguyen, Prancis H.
APPLICANT: Perrara, Napoleone
APPLICANT: Cunningham, Brian C.
APPLICANT: Wells, James A.
APPLICANT: Li, Bing
TITLE OF INVENTION: Variants of V
TITLE OF INVENTION: Production
TITLE OF INVENTION: Production
NUMBER OF SEQUENCES: 45
CORRESPONDENCE ADDRESS:
 Best Loc
Matches
 Sequence 3 Patent No.
 Query Match
 STREET:
 Local Similarity
les 12; Conserv
 ADDRESSEE:
 3, Application US/08691794
o. 6057428
 47
 1 CNDEGLESVPTEE 13
 CNDEGLECVPTEE 59
E: Flehr, Hohbach, Test,
Four Embarcadero Center,
an Francisco
 Conservative
 Variants of Vascular Endothelial Cell Growth Factor, Their Uses, and Processes
 93.0%;
 Score 66; [Pred. No. 0.
 Test,
 Mismatches
 Albritton & Herbert
 Suite
 BB
 .00012;
 ;
 Length 65
 Indels'
 0
 for their
 Gaps
 0
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy

STATE: C

California

RY: United States 94111-4187

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 ; TYPE: PRT
; ORGANISM: Homo Sapiens
US-09-392-932-11
 US-09-392-932-11
 ; TOPOLOGY: un ; MOLECULE TYPE: US-08-691-794-3
 Query Match
Best Local Similarity
Matches 12; Conserva
 NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 11
LENGTH: 110
 Sequence 11, Application US/09392932 Patent No. 6352975
 Matches
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Best Local Similarity
 GENERAL INFORMATION:
 APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
FILE REFERENCE: SCIOS.002A
CURRENT APPLICATION NUMBER: US/09/392,932
CURRENT FILING DATE: 1999-09-09
EARLIER APPLICATION NUMBER: 60/099,694
EARLIER APPLICATION NUMBER: 60/099,694
EARLIER FILING DATE: 1998-09-09
 TELEFAX: (415) 398-3249
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
 APPLICATION NUMBER: US/08/691,794
FILING DATE: 02-AUG-1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/002,827
FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION UMBER: US 08/567,200
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
 NAME: Dreger, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A.63
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
 SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
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 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
 ENGTH:
 61
 61 CNDEGLECVPTEE 73
 1 CNDEGLESVPTEE 13
 12;
 f: 109 amino acids amino acid
 CNDEGLESVPTEE 13
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 vumBER: US/08/691,794
02-AUG-1996
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RESULT 6 5194596-19

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 RESULT 5
US-09-822-270-17
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; OTHER INFORMATION: SYNTHETIC PEPTIDE
US-09-822-270-17
 ; LENGTH: 110
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-574-708A-11
 RESULT 4
US-09-574-708A-11
 Sequence 17, Application US/09822270 Patent No. 6559126 GENERAL INFORMATION:
 SOFTWARE: |
SEQ ID NO 11
 GENERAL INFORMATION:
 Matches
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 SEQ ID NO 17
 Sequence 11, Application US/09574708A Patent No. 6475796
 NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
 CURRENT APPLICATION NUMBER: US/09/822,270 CURRENT FILING DATE: 2001-04-02 PRIOR APPLICATION NUMBER: US 60/193,396 PRIOR FILING DATE: 2000-03-31
 TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MEDIATITLE OF INVENTION: ANGIOGENESIS, POLYNUCLEOTIDES ENCODING SAID PEPTIDES AND METHORS FILE REFERENCE: 205060US0
 APPLICANT:
 CURRENT APPLICATION NUMBER: US/09/574,708A CURRENT FILING DATE: 2000-05-18 PRIOR APPLICATION NUMBER: US 60/135,312 PRIOR FILING DATE: 1999-05-20
 APPLICANT: TOURNAIRE, ROSELYNE APPLICANT: DEMANGEL, CAROLINE
 NUMBER OF SEQ ID NOS:
 TITLE OF INVENTION: Vascular endothelial growth factor TITLE OF INVENTION: variants FILE REFERENCE: SCIOS004A
 TYPE: PRT
ORGANISM: ARTIFICIAL SEQUENCE
 APPLICANT:
 APPLICANT: N. Stephen Pollitt
 PPLICANT:
 ENGTH: 110
 Local Similarity hes 12; Conserv
61
 61
 1 CNDEGLESVPTEE 13
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 DERBIN, CLAUDE
PERRET, GERARD
MAZIE, JEAN-CLAUDE
PLOUET, JEAN
VASSAY, ROGER
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 93.0%;
92.3%;
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 Indels
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 Gaps
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APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, Israel
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Anglogenic Factor and Use The
FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
SOFTWARE: Patentin version 3.1
SEQ ID NO 15
 US-09-037-983C-15
; Sequence 15, Appl
: Patent No. 658327
 밁
 RESULT 7
5219739-20
;Patent No. 5219739
;APPLICANT: TISCHER,
 밁
 δ
 5219739-20
 JOHN C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF121 NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/559,041

FILLING DATE: 27-JUL-1990

PRIOR APPLICATION DATA:
 5194596-19
 ;C.;MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
 GURRENT APPLICATION DATA:
 ;Patent No. 5194596
 SEQ ID NO:19:
 FILING DATE:
SEQ ID NO:20:
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Best Local Similarity
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 GENERAL INFORMATION:
 PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
 APPLICANT: TISCHER, ITCHELL, RICHARD L.
 APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
 Local Similarity
 APPLICATION NUMBER: US/07/450,883 FILING DATE: 14-DEC-1989
 LENGTH: 121
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 61
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 Application US/09037983C
 Conservative
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 EDMUND G.; ABRAHAM, JUDITH A.; FIDDES
 EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
 93.0%;
92.3%;
 93.0%;
 Score 66;
Pred. No.
 0,
 0
 Score 66; I
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 Thereof
 Length 121;
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 in Treating Cardiovascular Dis
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PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
SOFTWARE: Patentin version 3.1
SEQ ID NO 17
LENGTH: 137
TYPE: PRT
ORGANISM: Homo sapiens
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 ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-037-983C-15
 RESULT 10
US-09-037-983C-16
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 US-09-037-983C-17
 US-09-037-983C-17
 CURRENT APPLICATION NUMBER: US/09/037,983C CURRENT FILING DATE: 1998-03-11 PRIOR APPLICATION NUMBER: 60/025,537 PRIOR FILING DATE: 1996-09-06 NUMBER OF SEQ ID NOS: 17 SOFTWARE: Patentin version 3.1 SEQ ID NO 16
 Sequence 16, Application US/09037983C Patent No. 6583276
 Sequence 17, App. Patent No. 65832
 Query Match
 GENERAL INFORMATION:
 Matches
 Query Match
 GENERAL INFORMATION:
 Matches
 Query Match
 APPLICANT: Keshet, Bli
APPLICANT: Vlodavsky, Israel
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Dise
FILE REFERENCE: 000274-00009
 APPLICANT: Newfeld,
APPLICANT: Keshet,
APPLICANT: Vlodavs)
 APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Dise
FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
 APPLICANT: Newfeld, APPLICANT: Keshet,
 LENGTH: 1:
TYPE: PRT
 LENGTH: 136
 ORGANISM: Homo sapiens
 Local Similarity
mes 12; Conservat
 Local
 Local Similarity
 61
 13
 1 CNDEGLESVPTEE 13
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12; Conserv
 1 CNDEGLESVPTEE 13
 CNDEGLECVPTEE 73
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 Application US/09037983C
 Conservative
 93.0%;
larity 92.3%;
Conservative
 Eli
 93.0%;
 93.0%;
Score 66; DB 4; 1
Pred. No. 0.00029;
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 Score 66; DB 4; Le
Pred. No. 0.00029;
0; Mismatches 1;
 Score 66;
Pred. No.
 Mismatches
 0.00028
 DB 4; Length 136;
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CNDEGLESVPTEB

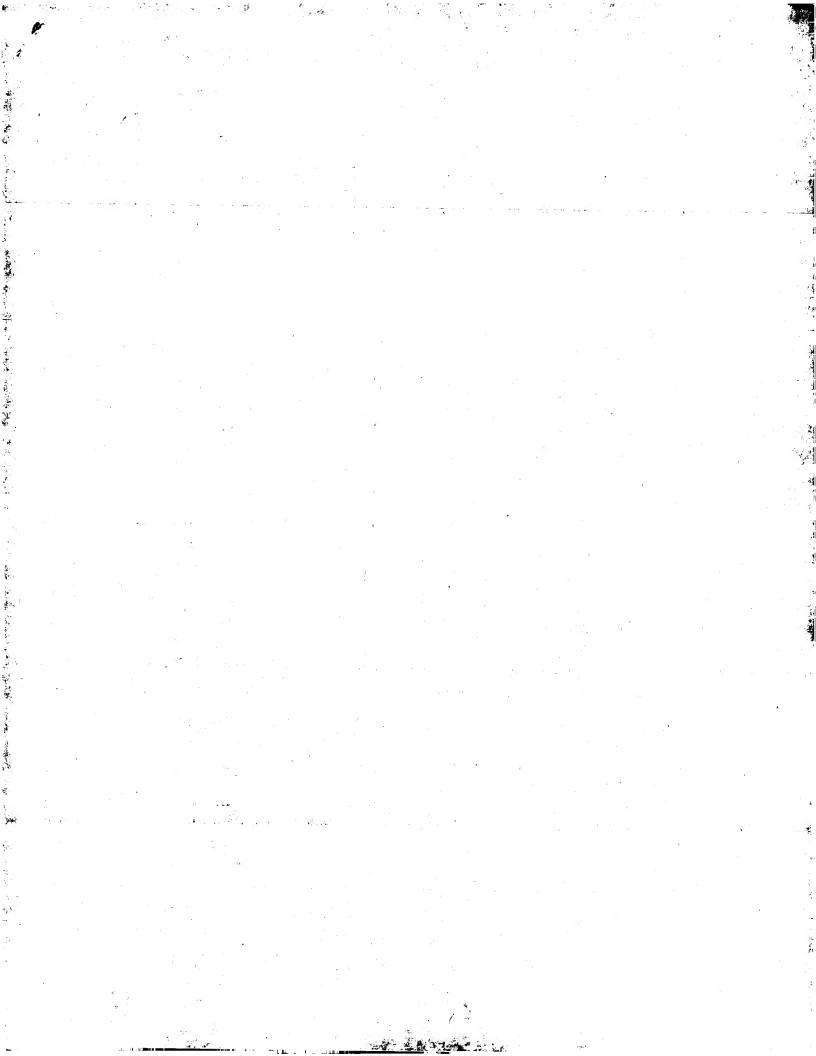
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RESULT 12
US-08-784-551C-2
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-519-476-2
 RESULT 11
US-09-519-476-2
 SEQ ID NO 2
 GENERAL INFORMATION:
 Sequence 2, Application US/08784551C Patent No. 6013780
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 Query Match
 CURRENT APPLICATION NUMBER: US/09/519,476
CURRENT FILING DATE: 2000-03-09
PRIOR APPLICATION NUMBER: IL128852
PRIOR FILING DATE: 1999-03-05
 APPLICANT: MINTZ, Liat et al.
TITLE OF INVENTION: NOVEL NUCLEIC ACID AND AMINO ACID SEQUENCES
FILE REFERENCE: 2786-0149P
 GENERAL INFORMATION:
 SOFTWARE: PatentIn version 3.0
 NUMBER OF SEQ ID NOS:
 COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: storage
ATTORNEY AGENT INFORMATION:
NAME: Cohen, Herbert
REGISTRATION NUMBER: 25,109
REFERENCE/DOCKET NUMBER: 0274.005/P003
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 463-7700
 OPERATING SYSTEM: IBM P.C. DOS 5.0 SOFTWARE: FastSEQ for Windows 2.0 CURRENT APPLICATION DATA:
 APPLICANT: Eli Keshet
APPLICANT: Israel Vlodava
APPLICANT: Zoya Poltorak
 CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
 NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
 TITLE OF INVENTION:
 FILING DATE:
 APPLICATION NUMBER: US/00 FILING DATE: January 21,
 COUNTRY: U
ZIP: 20006
 STREET:
 93.0%;
Local Similarity 92.3%;
es 12; Conservation
 ADDRESSEE:
 1 CNDEGLESVPTEE 13
 Washington, D.C.
 CNDEGLECVPTEE 99
 N/A
 CNDEGLECVPTEE
 Suite 1000
 3: Blank, Rome, Comisky & McCauley LLP 900 17th Street, N.W.
 U.S.A.
 Gera Neufeld
Eli Keshet
 Israel Vlodavsky
 E: storage
 ANGIOGENIC FACTOR AND USE THEREOF IN TREATING CARDIOVASCULAR DISEASE
 US/08/784,551C
 0
 Score 66; DB 4;
Pred. No. 0.0003;
 Mismatches
 1; Indels
 Length 141;
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Query Match
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Thehes 12; Conserva
 B
 US-09-574-708A-4
 ; ORGANISM: Homo Sapiens
US-09-392-932-2
 RESULT 13
US-09-392-932-2
 US-08-784-551C-2
 US-09-574-708A-4
 SOFTWARE:
SEQ ID NO 4
 Sequence 2, Applicat Patent No. 6352975 GENERAL INFORMATION:
 GENERAL INFORMATION:
 Patent No. 647579
 SEQ ID NO 2
 Matches
Query Match
 Query Match
 APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth factor
TITLE OF INVENTION: variants
FILE REFERENCE: SCIOSO04A
CURRENT APPLICATION NUMBER: US/09/574,708A
CURRENT FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/135,312
PRIOR PILING DATE: 1999-05-20
NUMBER OF SEQ ID NOS: 11
 FILE REFERENCE: SCIOS.002A
CURRENT APPLICATION NUMBER: US/09/392,932
CURRENT FILING DATE: 1999-09-09
EARLIER APPLICATION NUMBER: 60/099,694
EARLIER FILING DATE: 1998-09-09
EARLIER FILING DATE: 1998-09-09
NUMBER OF SEQ ID NOS: 11
 APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
LENGTH: 145 amino acids
 SOFTWARE: FastSEQ for Windows Version 4.0
 LENGTH: 145
TYPE: PRT
ORGANISM: Homo sapiens
 TYPE: PRT
 LENGTH:
 TYPE: amino acid
STRANDEDNESS: sir
 Local Similarity 92.3 es 12; Conservative
 TELEFAX:
 61 CNDEGLECVPTEE 73
 61 CNDEGLECVPTEE 73
 145
 1 CNDEGLESVPTEE 13
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 FastSEQ for Windows Version 4.0
 Application US/09574708A
 Application US/09392932
 Conservative
 (202) 463-6915
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 single
 93.0%;
92.3%;
 93.0%;
92.3%;
 93.0%;
 ..
 0; Mismatches
 Score 66;
 Score 66; DB 3;
Pred. No. 0.00031;
 Score 66; I
Pred. No. 0.
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 DB 4;
 멂
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 4.
 Length 145
 1; Indels
 Length 145;
 Length 145;
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 0;
 Gaps
 Gaps
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```
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Newfeld, Gera
APPLICANT: Newfeld, Gera
APPLICANT: Vlodaveky, Israel
APPLICANT: Vlodaveky, Israel
APPLICANT: Vlodaveky, Israel
APPLICANT: Poltorak, Zoya
ITITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Dise
FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 2
LENGTH: 145
TYPE: PRT
ORGANISM: Homo sapiens
US-09-037-983C-2
Search completed: January 30, 2004, 11:47:52 Job time: 5.53333 secs
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 Query Match 93.0%;
Best Local Similarity 92.3%;
Matches 12; Conservative
 Sequence 2, Application US/09037983C Patent No. 6583276
 Best Local Similarity 92.3%; Pred. No. 0.00031; Matches 12; Conservative 0; Mismatches 1; Indels
 61 CNDEGLECVPTEE 73
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 Post-processing: Minimum Match 0%
Maximum Match 100%
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 Maximum
 Minimum
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 Title:
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 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
 DB BB
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seq length: 2000000000
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 789580 seqs, 207824079 residues
 BLOSUM62
 Gapop 10.0 , Gapext 0.5
 US-09-266-543-8
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 Copyright
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| 66                | 66                 | 66                 | 66                 | 66                 | 66                | 66                | 66                | 66                | 66                 | 66                | 66                | 66                 | 99                | . 66              | Score              |
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| Sequence 927, App |                    | Sequence 169, App  | Sequence 165, App  |                    | Sequence 59, Appl |                   | •                 | Sequence 2, Appli | Sequence 2847, Ap  | Sequence 2, Appli | Sequence 14, Appl | Sequence 14, Appl. | Sequence 12, Appl | Sequence 13, Appl | Description        |

#### ALIGNMENTS

RESULT 1 US-10-139-876-13

Sequence 13, Application US/10139876 Publication No. US20020123481A1 GENERAL INFORMATION:

APPLICANT: Oliviero, Salvatore
TITLE OF INVENTION: C-Fos Induced Growth Factor (Figf) And Dna Encoding Same

```
TITLE OF INVENTION: NOVEL FORMS OF THE ANGIOGENIC FACTITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH; FILE REFERENCE: 240/086

CURRENT APPLICATION NUMBER: US/10/293,157

CURRENT FILLING DATE: 2002-11-12

PRIOR APPLICATION NUMBER: US/09/244,583

PRIOR FILLING DATE: 1999-02-04

PRIOR FILLING DATE: 1999-02-04

PRIOR FILLING DATE: 1999-02-06

NUMBER OF SEQ ID NOS: 29

SOFTMARE: FastSEQ for Windows Version 3.0

SEQ ID NO 12

LENGTH: 65

TYPE: PRT

ORGANISM: Homo sapién
 밁
 밁
 S
 US-10-293-157-12
 PRIOR APPLICATION NUMBER: US 60/113,997
PRIOR FILING DATE: 1998-12-28
PRIOR PELICATION NUMBER: US 60/150,604
PRIOR FILING DATE: 1999-08-26
PRIOR FILING DATE: 1999-08-26
PRIOR PELICATION NUMBER: US 60/157,108
PRIOR FILING DATE: 1999-10-05
PRIOR PELICATION NUMBER: US 60/157,756
PRIOR PELICATION NUMBER: US 09/438,046
PRIOR PELICATION NUMBER: US 09/438,046
PRIOR PELICATION NUMBER: US 09/438,046
PRIOR PELICATION NUMBER: US 09/691,200
PRIOR PELICATION NUMBER: US 09/691,200
 SEQ ID NO 14
LENGTH: 79
 Sequence 12, Application US/10293157 Publication No. US20030144200A1
 Query Match
 GENERAL INFORMATION:
APPLICANT: BAIRD, A
APPLICANT: ANDREAS
 APPLICANT:
 GENERAL INFORMATION:
 APPLICANT: ALITALO, Kari
APPLICANT: OESTMAN, Arne
APPLICANT: HELDIN, Carl-Henrik
TITLE OF INVENTION: PLATELET DERIVED GROWTH FACTOR D,
FILE REFERENCE: 1064/44833C2
CURRENT APPLICATION NUMBER: US/10/086,623
CURRENT FILING DATE: 2000-03-04
 NUMBER OF SEQ ID NOS: 42
SOFTWARE: PatentIn version 3.1
 CURRENT FILING DATE: 2000-03-04
PRIOR APPLICATION NUMBER: US 60/107,852
PRIOR FILING DATE: 1998-11-10
 APPLICANT:
 APPLICANT: ERIKSSON, Ulf
APPLICANT: AASE, Karin
ORGANISM: Homo sapiens
 Match 93.0%;
Local Similarity 92.3%;
les 12; Conservative
 47
 1 CNDEGLESVPTEE 13
 CNDEGLECVPTEE 59
 CNDEGLECVPTEE 13
 UUTELA, Marko
 PONTEN, Annica
 Application US/10086623
 ANDREASON,
 DATE: 2000-10-19
 ANDREW
 GRAI
 Score 66;
Pred. No. 0
 Length 65;
 Indels
 DNA CODING THEREFOR AND USES
 FACTOR:
 VEGF
 0
 0
```

RESULT 5 US-09-761-636A-2

Sequence 2, Application US/09761636A Patent No. US20020065218A1

APPLICANT: ACHEN, Marc

INFORMATION:

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밁
 ; FEATURE:
; NAME/KEY: misc feature
; OTHER INFORMATION: PDGF/VEGF-homology domain of VEGF-165
US-10-086-623-14
 밁
 US-10-260-539-14
 FILE REFERENCE: 1064/44833C2
CURRENT APPLICATION NUMBER: US/10/260,539
CURRENT FILING DATE: 2002-10-01
PRIOR APPLICATION NUMBER: US/10/086,623
PRIOR FILING DATE: 2000-03-04
PRIOR PILING DATE: 1998-11-10
PRIOR PILING DATE: 1998-11-2-8
PRIOR PILING DATE: 1998-12-28
PRIOR APPLICATION NUMBER: US 60/150,604
PRIOR APPLICATION NUMBER: US 60/150,604
PRIOR APPLICATION NUMBER: US 60/157,108
PRIOR APPLICATION NUMBER: US 60/157,108
PRIOR APPLICATION NUMBER: US 60/157,756
PRIOR PILING DATE: 1999-10-04
PRIOR PILING DATE: 1999-10-05
PRIOR APPLICATION NUMBER: US 60/157,756
 SOFTWARE: PatentIn version 3.1 SEQ ID NO 14
 Matches
 Sequence 14, Application US/10260539 Publication No. US20030073637A1
 Matches
 Query Match
 Best
 Query Match
 Best Local
 APPLICANT:
 PRIOR FILING DATE: 1999-11-10
PRIOR APPLICATION NUMBER: US 09/691,200
PRIOR FILING DATE: 2000-10-19
NUMBER OF SEO ID NOS: 42
 APPLICANT: ALITALO, Kari
APPLICANT: OESTMAN, Arne
APPLICANT: HELDIN, Carl-Henrik
TITLE OF INVENTION: PLATELET DERIVED GROWTH FACTOR
 APPLICANT: ERIKSSON, Ulf
APPLICANT: AASE, Karin
 FEATURE:
NAME/KEY: misc_feature
OTHER INFORMATION: PDGF/VEGF-homology domain of VEGF-165
 ORGANISM: Homo sapiens
 TYPE: PRT
 Local Similarity
 INFORMATION
36
 36 CNDEGLECVPTEE
 12;
 1 CNDEGLESVPTEE 13
 1 CNDEGLESVPTEE 13
 12; Conservative
 Similarity
 LI, Xuri
PONTEN, Annica
UUTELA, Marko
 Conservative
 Xuri
 93.0%;
92.3%;
 93.0%;
92.3%;
 48
 Score 66; DB 15;
Pred. No. 0.00032;
 Score 66; DB 14;
Pred. No. 0.00032
); Mismatches
 Mismatches
 DB 14;
 Length 79;
 Length 79
 á
 Indels
 DNA CODING THEREFOR AND USES
 <u>.</u>.
 0
 Gaps
 0
 0
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 US-10-094-749-2847
 US-09-761-636A-2
 ; ORGANISM: Homo sapiens
US-10-094-749-2847
 SEQ ID NO 2
LENGTH: 94
TYPE: PRT
Query Match
Best Local Similarity 92.
Matches 12; Conservative
 Matches
 SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 2847
 Sequence 2847, Application US/10094749
Publication No. US20030219741A1
 Best Local Similarity
 Query Match
 APPLICANT: CENDRON, Angela
TITLE OF INVENTION: VEGF-D/VEGF-C/VEGF PEPTIDOMIMETIC INHIBITOR
FILE REFERENCE: 1064/48505 Achen et al
CURRENT APPLICATION NUMBER: US/09/761,636A
CURRENT FILING DATE: 2001-01-18
PRIOR APPLICATION NUMBER: US 60/176,293
PRIOR FILING DATE: 2000-01-18
PRIOR PRICATION NUMBER: US 60/204,590
PRIOR PPLICATION NUMBER: US 60/204,590
PRIOR FILING DATE: 2000-05-16
NUMBER OF SEQ ID NOS: 34
 PRIOR APPLICATION NUMBER: 60/350,435
PRIOR FILING DATE: 2002-01-24
PRIOR APPLICATION NUMBER: JP 2001-328381
PRIOR FILING DATE: 2001-09-14
NUMBER OF SEQ ID NOS: 3381
 APPLICANT: MASUHO, YASUHIKO
TITLE OF INVENTION: NOVEL FULL-LENGTH CDNA
FILE REFERENCE: 084335/0160
CURRENT APPLICATION NUMBER: US/10/094,749
CURRENT FILING DATE: 2002-03-12
 SOFTWARE: PatentIn version 3.0
 APPLICANT:
 FEATURE:
NAME/KEY: misc_feature
OTHER INFORMATION: Amino acid residues Lys42-Asp135 of VEGF165
 PPLICANT
 APPLICANT:
 PPLICANT:
 PPLICANT
 PPLICANT:
 PPLICANT:
 PPLICANT:
 ORGANISM: Homo sapiens
 PPLICANT:
 ENGTH:
 INFORMATION:
 46
 100
 12; Conservative
 1 CNDEGLESVPTEE 13
 CNDEGLECVPTEE 58
 OTSUKI, TETSUJI
WAKAMATSU, AI
SATO, HIROYUKI
 SUGIYAMA, 10...
SUGIYAMA, 10...
 OTSUKA,
 SEKI, NAOHIKO
YOSHIKAWA, TSUTOMU
OTSUKA, MOTOYUKI
 STACKER, Steven
HUGHES, Richard
 NAGAI, KEIICHI
IRIE, RYOTARO
TAMECHIKA, ICHIRO
 NAGAHARI,
 KAMAMOTO, JUN-ICHI
ISONO, YUUKO
 YURI
 SHIZUKO
 KAORU
 KENJI
 TOMOYASU
 93.0%;
 93.0%;
 0
 0
 Score 66; DB 12; Length 100; Pred. No. 0.00042; 0; Mismatches 1; Indels
 Score 66; DB 9;
Pred. No. 0.00039;
 Mismatches
 Length 94
 °,
 0;
 Gaps
 Gaps
 0
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 RESULT 9
US-09-795-006A-51
 묽
 ; TYPE: PRT ; ORGANISM: Homo sapiens US-09-925-299-927
 US-09-925-299-927
 US-09-832-355A-2
 US-09-832-355A-2
 GENERAL INFORMATION:
APPLICANT: Kovesdi, Imre
APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
FILE REFERENCE: 205654
FILE REFERENCE: 205654
Sequence 51, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Alitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS
 GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies
 SEQ ID NO 2
 Matches
 Query Match
Best Local Similarity
 SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 927
 Matches
 Query Match
 Sequence 2, Application US/09832355A Publication No. US20030027751A1
 Patent No. US200
 Sequence 927,
 CURRENT APPLICATION NUMBER: US/09/925,299
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05883
PRIOR FILING DATE: 2000-03-08
PRIOR APPLICATION NUMBER: 60/124,270
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1556
 CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
SOFTWARE: Patentin version 3.0
 FILE REFERENCE: PA102
 ORGANISM: Homo sapiens
 TYPE: PRT
 LENGTH: 101
 ENGTH:
 Local Similarity es 12; Conserv
 45 CNDEGLECVPTEE 57
 53
 12;
 105
 1 CNDEGLESVPTEE 13
 1 CNDEGLESVPTEE 13
 CNDEGLECVPTEE 65
 CNDEGLESVPTEE 13
 CNDEGLECVPTEE 56
 Application US/09925299
20020055627A1
 Conservative
 Conservative
 93.0%;
92.3%;
 93.0%;
 Score 66; DB 11;
Pred. No. 0.00042;
 Score 66; DB 9;
Pred. No. 0.00044;
 Mismatches
 Mismatches
 Length 105;
 Length 101;
 Indels
 Indels
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 0
 Gaps
 Gaps
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 US-09-795-006A-59
 US-09-795-006A-153
 RESULT 11
 RESULT 10
 US-09-795-006A-51
 Sequence 153, Application US/09795006A Patent No. US20020151680A1 GENERAL INFORMATION:
 Query Match
Best Local Similarity
 GENERAL INFORMATION:
 Matches
 Sequence 59,
 Matches
 Query Match
 OTHER INFORMATION: Description of Artificial Sequence: amino acid -09-795-006A-59
 Patent No.
 TITLE OF INVENTION: MATERIALS AND METHODS: TITLE OF INVENTION: ENDOTHBLIAL GROWTH FAX FILE REFERENCE: 28967/35977B CURRENT APPLICATION NUMBER: US/09/795,006A CURRENT FILING DATE: 2001-02-26 PRIOR APPLICATION NUMBER: US 60/205,331
 PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR FILING DATE: 2000-05-18
 FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
 CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
 PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
PRIOR FILING DATE:
 APPLICANT: Alitalo et al
 NUMBER OF SEQ ID NOS: 175
 PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
 TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAB AND PROTEINS
 SOFTWARE: PatentIn Ver. 2.0
 FILE REFERENCE: 28967/35977B
 APPLICANT: Alitalo et al
 LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
 TYPE: PRT
 FEATURE:
 OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybri
 FEATURE:
 ORGANISM: Artificial Sequence
 ENGTH: 105
 ID NO 59
 ID NO 51
 Local
 54
 12; Conservative
 12;
 1 CNDEGLESVPTEE 13
 US20020151680A1
 Similarity
 PatentIn
 CNDEGLECVPTEE 66
 CNDEGLECVPTEE 66
 CNDEGLESVPTEE 13
 Application US/09795006A
 Conservative
 TE: 2001-02-26
NUMBER: US 60/205,331
 93.0%;
 93.0%;
 0,
 0
 Score 66;
Pred. No.
 Score 66;
Pred. No.
 Mismatches
 Mismatches
 FACTOR
 INVOLVING
ACTOR DNAS
 DB 10;
 DB 10; Length 105;
 .00044;
 1; Indels
 Length 105;
 HYBRID VASCULAR AND PROTEINS
 Indels
 0;
 0
 Gaps
 Gaps
 sequence of hybri
 0
 0
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 RESULT 13
US-09-795-006A-169
 US-09-795-006A-165
 RESULT 12
US-09-795-006A-165
 ; OTHER INFORMATION: Description US-09-795-006A-153
 SOFTWARE: Pat
SEQ ID NO 153
LENGTH: 105
 SEQ ID NO 165
LENGTH: 105
 GENERAL INFORMATION: APPLICANT: Alitalo
 Matches
 Query Match
 GENERAL INFORMATION:
APPLICANT: Alitalo et al
 Patent No. US20020151680A1
 Query Match
Best Local Similarity
 Patent No. US2002
 Sequence 169, Application US/09795006A
 Matches
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS FILE REFERENCE: 28967/15977B

CURRENT APPLICATION NUMBER: US/09/795,006A

CURRENT FILING DATE: 2001-02-26

PRIOR APPLICATION NUMBER: US 60/205,331

PRIOR FILING DATE: 2000-05-18

PRIOR APPLICATION NUMBER: US 60/185,205

PRIOR PRIOR APPLICATION NUMBER: US 60/185,205

PRIOR PRIOR PRIOR DATE: 2000-02-25

NUMBER OF SEQ ID NOS: 175

SOFTWARE: Patentin Ver. 2.0
 CURRENT APPLICATION NUMBER: US/09/795,006A CURRENT FILING DATE: 2001-02-26 PRIOR APPLICATION NUMBER: US 60/205,331 PRIOR FILING DATE: 2000-05-18 PRIOR APPLICATION NUMBER: US 60/185,205 PRIOR APPLICATION NUMBER: US 60/185,205 PRIOR FILING DATE: 2000-02-25
 TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS FILE REFERENCE: 28967/35977B
 PRIOR APPLICATION NUMBER: US 60/185,205 PRIOR FILING DATE: 2000-02-25
 NUMBER OF SEQ ID NOS: 175
 SOFTWARE: PatentIn Ver.
 NUMBER OF SEQ ID NOS: 175
 OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybric
 ORGANISM: Artificial Sequence
 TYPE: PRT
 ORGANISM: Artificial Sequence
 FEATURE:
 FEATURE:
 Local Similarity
 54
 54
 12;
 1 CNDEGLESVPTEE 13
 1 CNDEGLESVPTEE 13
 CNDEGLECVPTEE 66
 Alitalo et al
 CNDEGLECVPTEE
 Application US/09795006A
 Conservative
 Conservative
 0151680A1
 93.0%;
 93.0%;
 2.0
 66
 0,
 Score 66; DB 10;
Pred. No. 0.00044;
 Score 66; DB 10;
Pred. No. 0.00044;
 of Artificial Sequence: amino acid sequence of hybrid
 Mismatches
 Mismatches
 DB 10;
 Length 105;
 Length 105
 Indels
 Indels
 0
 0
 Gaps
 0,
 0
```

ID NO 169

```
US-09-925-299-927; Sequence 927, Application US/09925299; Publication No. US20030040617A9; GENERAL INFORMATION:
 밁
 5
 RESULT 14
US-09-795-006A-173
 밁
 ঠ
 ; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid US-09-795-006A-169
 US-09-925-299-927
 PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 173
 SOFTWARE: Pa
SEQ ID NO 927
 Query Match
Best Local S
 Best Local Similarity 92.3 Matches 12; Conservative
Query Match
 Query Match
 APPLICANT: ROSEN et al.
APPLICANT: ROSEN et al.
TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies
FILE REFERENCE: PA102
CURRENT APPLICATION NUMBER: US/09/925,299
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05883
PRIOR APPLICATION NUMBER: 60/124,270
 APPLICATE AITAIO et al
APPLICANT AITAIO et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-66
CURRENT FILING DATE: 2001-02-67
 GENERAL INFORMATION:
 Sequence 173, Application US/09795006A
Patent No. US20020151680A1
 OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybri
-09-795-006A-173
 NUMBER OF SEQ ID NOS: 1556
SOFTWARE: PatentIn Ver. 2.0
 TYPE: PRT .
ORGANISM: Homo sapiens
 TYPE: PRT
ORGANISM: Artificial Sequence
 FEATURE:
 ORGANISM: Artificial Sequence FEATURE:
 LENGTH: 105
 ENGTH: 105
 y Match 93.0%;
Local Similarity 92.3%;
hes 12; Conservative (
 54 CNDEGLECVPTEE 66
 1 CNDEGLESVPTEE 13
 93.0%;
 93.0%; Score 66;
 Score 66; DB 10;
Pred. No. 0.00044;
 Score 66; DB 10;
Pred. No. 0.00044;
 Mismatches
 DB 11; Length 105;
 DB 10; Length 105;
 DB 10; Length 105;
 Indels
 0;
 0;
 Gaps
 0,
 o,
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Best Local Similarity 92.3%; Pred. No. 0.00044;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps

Qy 1 CNDEGLESVPTEE 13

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Db 45 CNDEGLECVPTEE 57
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Search completed: January 30, 2004, 12:15:02 Job time: 12.9917 secs

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|    |                   |      |           |        |                    |         |                |        |      |
|    | ***<br>***        |      |           |        |                    |         |                |        |      |
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Minimum DB.
Maximum DB
 Result
 Database
 Total number of hits satisfying chosen parameters:
 Scoring table:
 Perfect score:
 Run on:
 Post-processing: Minimum Match 0%
 OM protein - protein search, using sw model
 ö
 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
 Score
 seq
 length: 0
length: 2000000000
 Query
Match
 PIR_76:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
 BLOSUM62
 283308 ведв,
 Gapop 10.0 ,
 US-09-266-543-8
71
 January 30, 2004, 11:34:23 ;
Maximum Match 100%
Listing first 45 summaries
 CNDEGLESVPTEE
 Copyright
 pir1:*
pir2:*
pir3:*
pir4:*
 Length
190
190
190
214
128
188
188
207
251
 GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd
 B
 96168682 residues
 Gapext 0.5
 S32793
T31557
S51880
T41104
 T05174
S20003
E87921
S06280
S20811
S32559
 AS52130
AS152130
A33787
B49530
S57956
B44080
B44881
A35987
A44881
I51295
JC46780
JC46780
JC46780
 T48339
JQ1631
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 SUMMARIES
 ; Search time 5.6 Seconds (without alignments) 223.249 Million cell updates/sec
 283308
 proteoglycan I - m
biglycan precursor
biglycan precursor
 nypothetical
HCRF2 protei
 glioma-derived vas
 placental growth hypothetical prot
 probable transcrip
 probable membrane
 decorin precursor
 Ig heavy chain pre
protein F56G4.5 [i
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| 45                 | 44                 | 43                 | 42                 | 41                 | 40                 | 39                 | 38                 | 37                 | 36                 | 35                 | 34                 | 33                 | 32                 | 31                 | 30                |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|
| 37                 | 37                 | 37                 | 37                 | 37                 | 38                 | 38                 | 38                 | 38                 | 38                 | 38                 | 38                 | 38                 | 39                 | 39                 | 39                |
| 52.1               | 52.1               | 52.1               | 52.1               | 52.1               | 53.5               | 53.5               | 53.5               | 53.5               | 53.5               | 53.5               | 53.5               | 53.5               | 54.9               | 54.9               | 54.9              |
| 315                | 295                | 137                | 83                 | 64                 | 1459               | 772                | 725                | 549                | 422                | 369                | 324                | 152                | 800                | 437                | 357               |
| N                  | N                  | N                  | ب                  | N                  | N                  | N                  | N                  | N                  | N                  | ν                  | N                  | <b>_</b>           | N                  | N                  | N                 |
| AI1413             | T34572             | F72608             | BNRT1              | B97138             | G86457             | S62481             | A83266             | C83677             | G75131             | F86714             | A99284             | DABPT3             | T25140             | AF3597             | S24317            |
|                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                   |
| peptidoglycan anch | hypothetical prote | hypothetical prote | brain neuron cytop | hypothetical prote | unknown protein, 4 | hypothetical prote | conserved hypothet | L-lactate permease | malate oxidoreduct | conserved hypothet | hypothetical prote | adenosylmethionine | hypothetical prote | fe-s oxidoreductas | decorin precursor |

#### ALIGNMENTS

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vascular endothelial growth factor - pig (_Species: Sus scrofa domestica (domestic pig) (_Species: Sus scrofa domestica (domestic pig) (_Species: Sus scrofa domestica (domestic pig) (_Spate: 14-dul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999 (_Spate: 10-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999 (_Spate: 10-1995 #sequence_spate: Spate: Necdouw, P.D. Rysharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D. Biochim. Biophys. Acta 1260, 235-238, 1995 #siophys. Spate: Spate: Spate: Nucleotide sequence and expression of the porcine vascular endothelial growth A.Reference number: S52130; MUID:95143284; PMID:7841203
 RESULT 1
S52130
 R;Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.
A;Status: nucleic acid sequence not shown; not compared with conceptual translation A;Molecule type: mRNA A;Molecule type: mRNA A;Polecule type: mRNA A;Po
 vascular endothelial growth factor 206 precursor - human N;Alternate names: vascular permeability factor N;Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF
 A;Molecule type: mRNA
A;Residues: 1-140,'N',183-232 <HOU2>
A;Accession: B41551
 A;Accession: C41551
A;Status: nucleic acid sequence not shown
 A;Molecule type: mRNA
A;Residues: 1-232 <HOUL>
A;Cross-references: GB:S85192; NID:g246155; PID:g246156
 Mol. Endocrinol. 5, 1806-1814, 1991
A;Title: The vascular endothelial growth factor family: identification of a fourth molecular endother: A41551; MUID:92168017; PMID:1791831
A;Accession: A41551
 A41551
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 A;Cross-references: GB:X81380; NID:g587559; PIDN:CAA57143.1; PID:g587560
 A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-190 <SHA>
 A; Accession: S52130
 Query Match
Best Local S
Matches 12
 98
 1 CNDEGLESVPTEE 13
 l Similarity
12; Conserv
 CNDEGLECVPTEE
 Conservative
 93.0%; Score 66; DB 2;
92.3%; Pred. No. 0.00032;
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 Length 190;
 0
 Gaps
 JQ1463; JQ1
 0
 189;
 VEGF
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A;Cross-references: GB:M27281; NID:g340300; PIDN:AAA36807.1; PID:g340301
A;Cross-references: GB:M27281; NID:g340300; MJ.; Goeddel, D.V.; Ferrara, N.
Science 246, 1306-1309, 1989
A;Title: Vascular endothelial growth factor is a secreted angiogenic mit
 A;Status: RNA
A;Status: RNA
A;Nolocule type: mRNA
A;Residues: 1-140,'N',183-232 <LEU>
A;Residues: 1-140,'N',183-232 <LEU>
A;Residues: 1-140,'N',183-232 <LEU>
A;Cross-references: GB:M32977; NID:9181970; PIDN:AAA35789.1; PID:9181971
R;Weindel, K.; Marme, D.; Weich, H.A.
Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
A;Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial
A;Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial
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 A;Description: promotes fluid and protein leakage from blood vessels C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular proteins alternative splicing; angiogenesis; dimer; disulfide bond; extracellular proteins f;1-132/Product: vascular endothelial growth factor 206 precursor #status predict f;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status predict;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status predict;1-165/Domain: signal sequence #status predicted <SIG>
 A; Molecule type: protein
A; Molecule type: protein
A; Residues: 27-36;43-49,'R';72-76,'Q',78-81;59-71 <C
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A;Residues: I-141,227-232 <TI3>
A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63978
R;Keck, P-J.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly, D.T.
Science 246, 1309-1312, 1989
A;Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF.
 A;Molecule type: mRNA
A;Residues: 1-140,'N',227-232 <WE2>
A;Residues: 1-140,'N',227-232 <WE2>
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A;Resperimental source: AIDS-Kaposi's sarcoma cell
A;Experimental source: AIDS-Kaposi's sarcoma cell
A;Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monsell, R.;
Biol. Chem. 264, 20017-20024, 198
J. Biol. Chem. 264, 20017-20024, 198
A;Tille: Human vascular permeability factor. Isolation from U937 cells.
A;Reference number: A34492; MUID:90062112; PMID:2584205
 A; Reference number: A40079; MUID: 90069609; A; Accession: A40079
 A; Reference number: A40454; MUID: 91268072;
 A;Map position: 6p21-6p12
 A;Cross-references: GDB:132244; OMIM:192240
 A;Gene: GDB:VEGF
 A; Accession: JQ1464
 A;Cross-references: EMBL:X62568; NID:g37658;
A;Experimental source: AIDS-Kaposi's sarcoma
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 A; Molecule type:
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 ;Accession: B40454
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 Function
 Genetics:
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 Query Match
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 Local
 87
 Similarity
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92.3%;
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 GB:M63972;
 ç.
 Score 66;
Pred. No.
 Pred. No. 0.0
); Mismatches
 (covalent) #status predicted
 GB:M63973;
 PMID:2479987
 PMID:1711045
 0.0004;
 PIDN:CAA44447.1;
cell
 DB 2;
 CON>
 Length 232;
 spliced
 GB:M63974; GB:M63975; GB:M63976;
 angiogenic mitogen
 forms
 PID:g37659
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 is VEGF 165.
 Gaps
 Siegel,
 GB:M63977;
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ovine vascular endothelial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon aries C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 C;Accession: S57956 C;Accession: S57956 D.A.; Dal, Y.; Li, J.; Jones, S.C.; Moor, submitted to the EMBL Data Library, July 1995
 RESULT 5
 vascular endothelial growth factor homolog A2R, 14.7K - C;Species: Orf virus C;Date: 07-Apr-1994 #sequence_revision 18-Nov-1994 #text C;Accession: B49530
 R;Lyttle, D.J.; Fraser, K.M.; Fleming, S.B.; Mercer, A.A.; Robinson, J. Virol. 68, 84-92, 1994
A;Title: Homologs of vascular endothelial growth factor are encoded A;Reference number: A49530; MUID:94076465; PMID:8254780
 A;Molecule type: mRNA
A;Residues: 1-120 <TIS>
A;Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
C;Keywords: alternative splicing
 C;Species: Bos primigenius taurus (cattle)
C;Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
C;Accession: A33787
 RESULT
A33787
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 A;Cross-references: GB:S67520; NID:g456897; PIDN:AAB29220.1; PID:g456899 A;Note: sequence inconsistent with nucleotide translation A;Note: sequence extracted from NCBI backbone (NCBIN:141420, NCBIP:14142)
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 Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989 A; Title: Vascular endothelial growth factor: a new member of the
 A;Cross-references:
 A; Reference number: S57956
A; Accession: S57956
 A; Molecule type: DNA
A; Residues: 1-133 < LYT>
 A;Status: preliminary
 A; Accession: B49530
 A; Contents: NZ2
 A; Status: preliminary
 A;Reference number: A33787; MUID:90121225; PMID:2610687 A;Accession: A33787
 R;Tischer,
 vascular endothelial growth factor (version 1)
 A;Residues: 1-146 <RED>
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 Date: 07-Apr-1994 #sequence_revision 18-Nov-1994 #text_change 08-Oct-1999; Accession: B49530
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 Matches
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Best Local
 Matches
 Query Match
 Query Match
 Local
 Local Similarity
 [7]
:
 71
 60
Similarity
 Similarity
 CNDEGLESVPTEE 13
 CNDEGLESVPTEE
 CNDESLECVPTEE
 CNDESLECVPTEE
 Gospodarowicz, D.; Mitchell,
 Conservative
 Conservative
 EMBL:X89506; NID:g899350; PIDN:CAA61677.1; PID:g899351
 84.5%;
 84.5%;
 84.5%;
 83
 72
 0,
 <u>.</u>
 Score 60; DB 2;
Pred. No. 0.0029;
 Pred. No. 0
 Score 60; DB 2;
Pred. No. 0.0024;
 Mismatches
 Mismatches
 R.; Silva, M.;
 ນ. 0026;
2;
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 Moor,
 bovine
 2;
 #text_change
 Length 120
 (domestic sheep)
 Length
 Length 146
 Indels
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 are encoded by the poxvirus
 Orf virus
 Schilling,
 05-Nov-1999
 platelet-derived growth
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 A.J.
 Gaps
 J.; Lau,
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 0
 K., Cricp
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Conservative

0,

Mismatches

Indels

0

Gaps

1/2

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A;Note: sequence extracted from NCBI backbone (NCBIN:107622, NCBIP:107623) R;Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M. J. Biol. Chem. 267, 16317-16322, 1992 A;Title: Vascular endothelial growth factor. Regulation by cell differenti A;Reference number: A43351; MUID:92355593; PMID:1644816 A;Accession: A43351
 C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence revision 03-Feb-1994 #text_change 05-Nov-1999
C;Accession: B44881; A43351; A61029
R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.
Development 114, 521-532, 1992
A;Tille: Expression of vascular endothelial growth factor during embryonic a A;Reference number: A44881; MUID:92274860; PMID:1592003
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 R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N. Science 246, 1306-1309, 1989
A;Title: Vascular endothelial growth factor is a secreted angiogenic mitogen. A;Reference number: A40080; MUID:90069608; PMID:2479986
A;Accession: B40080
 vascular endothelial growth factor precursor (version 2) - bovine C;Species: Bos primigenius taurus (cattle) C;Date: 30-Jun-1992 #sequence revision 30-Jun-1992 #text_change 05-Nov-1999 C;Accession: B40080; B33787; A33255
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A;Molecule type: mRNA
A;Residues: 1-116,'ER',119-190 <CLA>
A;Cross-references: GB:M95200; NID:g202350; PIDN:AAA40547.1; PID:g202351
 C;Keywords: alternative splicing; glycoprotein F;1-66/Domain: signal sequence #status predicts F;2-7-190/Product: vascular endothelial growth i F;200/Binding site: carbohydrate (Asn) (covaler
 A;Accession: A33255
A;Molecule type: protein
A;Residues: 27-31 <FER>
 R;Ferrara, N.; Henzel, W.J.
Biochem. Biophys. Res. Commun. 161, 851-858, 1989
A;Title: Bttuitary follicular cells secrete a novel heparin-binding growth
A;Reference number: A33255; MUID:89286596; PMID:2735925
 A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007 R;Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989 A;Title: Vascular endothelial growth factor: a new member of the platelet-derived of the platelet of the platelet.
 A;Cross-references: GB:S38083; NID:g249858; PIDN:AAB22253.1; PID:g249859
A;Experimental source: embryo
 A; Molecule type: mRNA
A; Residues: 1-190 <BRE>
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 B44881
 A; Molecule type: mRNA
A; Residues: 27-190 <TIS>
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A; Residues: 1-190 <LEU>
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 Query Match
Best Local
 Matches
 98
 86
 1 CNDEGLESVPTEE 13
 Similarity
 CNDESLECVPTEE
 CNDESLECVPTEE
 CNDEGLESVPTEE
 Conservative
 84.5%;
 98
 98
 0;
 Score 60;
Pred. No.
 growth factor #status predicted <MAT>
(covalent) #status predicted
 predicted <SIG>
 0.0038;
 DB 2;
 a new member of the platelet-derived growth
 Length 190
 Indels
 cell differentiation
 PID:g163809
 embryonic angiogenesis
 0
 Gaps
 factor speci
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A;Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that A;Acession: A35987; MUID:90207249; PMID:2320579
片
 S
 A;Cross-references: GB:M32167; NID:g204287; PIDN:AAA41211.1; PID:g204288
 A; Molecule type: mRNA
A; Residues: 1-190 < CON>
 A; Status: preliminary
 C; Accession: A35987
 glioma-derived vascular endothelial cell growth factor - C;Species: Rattus norvegicus (Norway rat)
C;Date: 16.Nov-1990 #sequence_revision 16-Nov-1990 #text
 문
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 C; Keywords: alternative splicing; angiogenesis; dimer; disulfide
 A;Accession: A61029
A;Molecule type: protein
A;Residues: 27-38 <ROS>
 A; Title: Conditioned medium from mouse sarcoma 180 cells A; Reference number: A61029; MUID:91197543; PMID:2085441
 Growth Factors 4, 53-59, 1990 A; Title: Conditioned medium fi
 A;Note: sequence extracted from NCBI backbone (NCBIN:110665, R;Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.;
 Matches
 Query Match
 Matches
 Query Match
 Local
 Local Similarity es 10; Conserv
98
 98
 10;
 1 CNDEGLESVPTEE 13
 1 CNDEGLESVPTEE 13
 Similarity
CNDEALECVPTSE 98
 CNDEALECVPTSE
 Conservative
 Conservative
 77.5%;
76.9%;
 76.9%;
 77.5%;
 98
 0
 0
 Score 55;
Pred. No.
 Score 55; D
Pred. No. 0.
 Mismatches
 Mismatches
 0.03;
 DB
 DB 2;
 2
 #text_change
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 Length 190;
 Length 190;
 Indels
 Indels
 contains vascular endothelial g
 NCBIP:110675)
Folkman, J.
 05-Nov-1999
 bond; glycoprotein;
 0,
 0,
 Gaps
 Gaps
 T.M.; Hope,
 0,
 0
 mit
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Development 114, 521-532, 1992
A;Title: Expression of vascular endothelial growth factor during embryonic angiogenesis A;Reference number: A44881; MUID:92274860; PMID:1592003
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A; Molecule type: mRNA
A; Residues: 1-214 < BRE>
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C;Datc: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 08-Oct-1999
C;Accession: A44881; C44881; A60932; S52136
R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.
 vascular endothelial growth factor-3 precursor - mouse N; Contains: vascular endothelial growth factor-2; vascular permeability factor
 A; Accession: A44881
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A;Reference number: A60932; MUID:91079755; PMID:2258694
A;Accession: A60932

protein

A;Molecule type: mRNA
A;Residues: 1-140,209-214 <BR2>
A;Residues: 1-140,209-214 <BR2>
A;Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1;
A;Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1;
A;Cote: sequence extracted from NCBI backbone (NCBIN:107624,
A;Note: sequence extracted from NCBI backbone (NCBIN:107624,
R;Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.;
J. Exp. Med. 172, 1535-1545, 1990

PID:g249861 NCBIP:107625) Familletti, P.C.;

A;Experimental source: embryo A;Note: sequence extracted fro A;Accession: C44881

from

NCBI

backbone

(NCBIN:104677,

NCBIP: 104678) PID:g249857

Cross-references: GB:S37052; NID:g249856; PIDN:AAB22252.1;

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A; Map position: 19
A; Introns: 137/2
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F;22-188/Product: v:
 x; Townson, S.; Lagercrantz, J.; Grimmond, S.; Silins, G.; Norden
Biochem. Biophys. Res. Commun. 220, 922-928, 1996
A; Title: Characterization of the murine VEGF-related factor gene
A; Reference number: JC4679; MUID:96183052; PMID:8607868
A; Accession: JC4680
 R;Sugihara, T.; Kaul, S.C.; Mitsul, X.; wauliwa, A.
Blochim. Blophys. Acta 1224, 365-370, 1994
A;Title: Enhanced expression of multiple forms of VEGF is associated with spontaneous A;Reference number: S52136; MUID:95101726; PMID:7803491
A;Accession: S52136
A;Status: preliminary
A;Status: preliminary
 RESULT 10
I51295
 A;Cross-references: GB:U43837; NID:g1314335; PIDN:AAC52553.1; PID:g1314336 C;Comment: This factor is a mitogen, that is selective for endothelial cells, ar_endothelial growth factors 167 and VEGF 186.
 vascular endothelial growth factor-related factor 167 precursor - N;Alternate names: VRF 167 protein C;Species: Mus musculus (house mouse)
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 C;Accession: I51295
R;Flamme, I.; Breier, G.; Risau,
Dev. Biol. 169, 699-712, 1995
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 A; Molecule type: mRNA
A; Residues: 1-188 < TOW >
 A; Molecule type: DNA
A; Residues: 1-128 <FLA>
 A; Title: Vascular endothelial growth factor (VEGF) and VEGF receptor 2 (flk-1)
 vascular endothelial growth factor C;Species: Phasianidae gen. sp. (q.
 A; Molecule type: protein A; Residues: 27-46 < SUG>
 A;Status: preliminary; translated from GB/EMBL/DDBJ
 A;Accession: I51295
 F;27-214/Product:
 Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999;
Accession: JC4680
 Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3. (Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homo; keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homo; 1-26/Domain: signal sequence #status predicted <SIG>;27-214/Product: vascular endothelial growth factor-3 #status experimental <MAT>
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 Genetics:
 Query Match
Best Local Similarity
 Query Match
 Local
 28
 10;
 Similarity
8; Conser
 CNDEGLESVPTE 12
 CGDEGLECVPVD 39
 CNDEALECVPTSE 98
 CNDEGLESVPTEE
 Conservative
 Conservative
 66.2%;
 77.5%;
76.9%;
 cor - quail (fragment)
 (quail)
 Score 47; DB
Pred. No. 0.53
1; Mismatches
 ..
 Score 55; DB 2;
Pred. No. 0.034;
 Mismatches
 DB .
 Silins, G.; Nordenskjoeld, M.;
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 Length 128
 Length 214;
 glycoprotein; homodimer
 0
 #status
 Gaps
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RESULT 12
JC4679
 A;Molecule type: DNA
A;Residues: 1-251 <DAS>
A;Cross-references: EMBL:AF016485; NID:g2822278; PID:g2822376; HALOSP:H1185
 A;Title: Snapshot of a large dynamic replicon in a halophilic A;Reference number: Z16408; MUID:99063795; PMID:9847077 A;Accession: T08315
 R;Ng, W.V.; Ciufo, S.A.; Smith, T.M.; Bumgarner, R.E.; Baskin, D.; Faust, J.; Hall, Genome Res. 8, 1131-1141, 1998
S
 A;Genome: plasmid pNRC100
C;Superfamily: Halobacterium plasmid pNRC100 hypothetical protein
 A;Variety: strain NRC-1
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 03-Nov-2000
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 S
 A;Map position: 19
C;Keywords: growth factor
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-207/Product: vascular endothelial growth factor r
 A;Cross-references: GB:U43836; NID:g1703480; PIDN:AAC52932.1; PID:g1314334 C;Comment: This factor is a mitogen, that is selective for endothelial cellar endothelial growth factors 167 and 186.
 A;Reference number: JC4679; MUID:96183052; PMID:8607868 A;Accession: JC4679
 R;Townson, S.; Lagercrantz, J.; Grimmond, S.; Silins, G.; No Biochem. Biophys. Res. Commun. 220, 922-928, 1996
A;Title: Characterization of the murine VEGF-related factor
 vascular endothelial growth factor-related N,Alternate names: VRF 186 protein, VEGF 18
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 á
 A; Gene: HALOSP:H1185
 A; Experimental source: strain C; Genetics:
 A;Status: translated from GB/EMBL/DDBJ
 hypothetical
 A;Gene: vr
 A; Molecule type: mRNA
A; Residues: 1-207 < TOW >
 C; Accession:
 C;Species: Mus musculus (house mouse)
C;Date: 10-May_1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999
 Matches
 Query Match
 Accession: T08315
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 Matches
 Query Match
 Genetics
 Matches
 Query Match
Best Local
 13
 Local
 82
 82
 1 CNDEGLESVPT 11
 Similarity
 protein H1185 [imported] - Halobacterium sp. (strain NRC-1) plasmid
 Similarity
8; Conserv
 JC4679
 8
 Similarity
 CNDEGLESVPT 11
 CNDEGLESVP 10
 CPDDGLECVPT
 CPDDGLECVPT 92
 Conservative
 Conservative
 Conservative
 63.4%;
 63.4%;
72.7%;
 62.0%;
70.0%;
 92
 NRC-1
 2;
 Score 44; DB 2;
Pred. No. 3.7;
 Pred.
 Score 45;
 Score 45; I
Pred. No. 1
 related factor 186
VEGF 186
 ced. No. 1.8;
Mismatches
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 Length 251;
 Length 207
 Length 188;
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C;Superfamily: decorin; leucine-rich alpha-2-glycoprotein repeat homology; proteoglycan C;Keywords: chondroitin sulfate proteoglycan; dermatan sulfate; duplication; extracellul F;1-15/Domain: signal sequence #status predicted <SIG>F;17-37/Domain: signal sequence #status predicted <PAT>
F;17-37/Domain: propeptide #status predicted <PAT>
F;38-386/Product: biglycan #status predicted <AMAT>
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F;91-114/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRRI>
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A;Map position: Xq28-Xq28
A;Introns: 80/1; 117/3; 189/1; 226/1; 257/2
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A;Cross-references: GB:J04599; NID:g184339
A;Cross-references: GB:J04599; NID:g184339
A;Crossion: S14349; MUID:g1174749; PMID:1848758
A;Accession: S14349
 A; Molecule type: DNA
A; Residues: 1-368 <FIS1>
A; Residues: R
 R;Fisher, L.W.; Heegaard, A.M.; Vetter, U.; Vogel, W.; Just, W.; Termine, J.D.; Young, 1 J. Biol. Chem. 266, 14371-14377, 1991
A;Title: Human biglycan gene. Putative promoter, intron-exon junctions, and chromosomal A;Reference number: A40757; MUID:91317791; PMID:1860845
A;Recession: A40757
 A;Molecule type: protein
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 A;Molecule type: protein
A;Residues: 38-41,'X',43-46,'X',48-57 <ROU>
A;Residues: 38-41,'X',43-46,'X',48-57 <ROU>
T. Bioh: C.W.; Hawkins, G.R.; Tuross, N.; Termine, J.D.
J. Biol. Chem. 262, 9702-9708, 1987
J. Biol. Chem. 262, 9702-9708, 1987
A;Title: Purification and partial characterization of small proteoglycans I and A;Reference number: A92656; MUID:87250639; PMID:3597437
A;Accession: A28457
 A,Experimental source: aorta R,Roughley, P.J.; White, R.J. Biochem. J. 262,83-827, 1989 Biochem. J. 262,827, 1989 A;Title: Dermatan sulphate proteoglycans of human articular cartilage. The properties A,Reference number: S05639; MUID:90073579; PMID:2590169 A;Accession: S05639
 A;Title: Dinucleotide repeat polymorphism at the human biglycan (BGN) locus. A;Reference number: 138706; MUID:95187185; PMID:7881444
A;Accession: 138706
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C;Date: 21-Apr-1992 #sequence revision 26-May-1995 #text_change 28-Jan-2000
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A; Residues: 361-368 < JUS>
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A; Cross-references: EMBL:Ul1686; NID:9607862; PIDN:AAC50117.1; PID:9619663
A; Fisher, L.W.; Termine, J.D.; Young, M.F.
J. Biol. Chem. 264, 4571-4576, 1989
A; Title: Deduced protein sequence of bone small proteoglycan I (Biglycan) shows homology
A; Reference number: A32458; MUID:89174714; PMID:2647739
A; Accession: A32458
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 RESULT 14
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 Status: preliminary; translated from GB/EMBL/DDBJ
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 Genetics:
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 189/1; 226/1; 257/2; 303/3
alpha-2-glycoprotein repeat
alpha-2-glycoprotein repeat
homology <LRR2>
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hypothetical protein F15A17.210 - Arabidopsis thaliana (;Species: Arabidopsis thaliana (mouse-ear cress) C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 20-Apr-2000 C;Accession: T48339 C;Accession: T48339 R;Bevan, M.; Terryn, N.; Ardiles, W.; Buysshaert, C.; Dasseville, R.; De Cleeves, H.W.; Rudd, S.; Lemcke, K.; Mayer, K.F.X. ewes, H.W.; Rudd, S.; Lemcke, K.; Mayer, K.F.X. submitted to the Protein Sequence Database, April 2000
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 A;Introns: 24/3; 176/3; 233/1; 385/1; 415/3
A;Note: F15A17.210
 A; Map position: 5
 A; Experimental source:
 A; Molecule type: DNA
A; Residues: 1-464 <BEV>
 A; Status: preliminary
 A; Accession: T48339
 A; Reference number: Z24491
 T48339
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 F;316-368/Domain: proteoglycan carboxyl-terminal homology <PCH>
F;42,47/Binding site: dermatan sulfate (Ser) (covalent) #status experimental
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 F;278-300/Domain:
 F;254-277/Domain:
 F;230-253/Domain:
 F;184-207/Domain: F;209-229/Domain:
 F;160-183/Domain:
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 Searched:
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 Database :
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 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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71
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 127863 seqs, 47026705 residues
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 Length
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SEQUENCE
 VEGA_CANFA STANDARD; PRT; 214 AA. 09MYV3; Q9XSF3; Q9XSF4; Q9XSF5; 28-FEB-2003 (Rel. 41, Created) 28-FEB-2003 (Rel. 41, Last sequence update) 28-FEB-2003 (Rel. 41, Last annotation update) Vascular endothelial growth factor A precursor
 CANFA
 Canis familiaris (Dog).
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 SMART; SM00141; PDGF; 1.

PROSITE; PS00249; PDGF 1; 1.

PROSITE; PS50278; PDGF 2; 1.

PROSITE; PS70278; PDGF 2; 1.
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 Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.
 TISSUE=Heart;
 SEQUENCE FROM N.A. (ISOFORMS VEGF-188; VEGF-182
 Scheidegger P., W. Ballmer-Hofer K.,
 MEDLINE=20125516; PubMed=10661874; Scheidegger P., Weiglhofer W., Suarez
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae;
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 permeability factor) (VPF).
 "Vascular endothelial growth factor (VEGF)
 SEQUENCE FROM N.A.
 heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found
with PIGF (By similarity).
SUBCELLULAR LOCATION: Secreted but remains associ
 FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 SIMILARITY: BELONGS
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 Name=VEGF-182;
 Name=VEGF-188;
 Event=Alternative splicing; Named isoforms=3; Comment=Additional isoforms seem to exist;
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 IsoId=Q9MYV3-2; Sequence=VSP_004617;
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 IsoId=Q9MYV3-1; Sequence=Displayed;
 soId=Q9MYV3-3;
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nem. 380:1449-1454(1999).
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 This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN the European Bioinformatics Institute. There are no restrue by non-profit institutions as long as its content
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 STANDARD; PRT; 232 AA.
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"The vascular endothelial growth factor family:
fourth molecular species and characterization of
pr. RNA.";
 Claffey K.P., Shih S.-C., Mullen A., Abrams K.R., Lee S.W., Detmax M.; "Identification of a human VPF/VEGF ihypoxia-induced mRNA stability."; Mol. Biol. Cell 9:469-481(1998).
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Murata H., Fukushima J., Hattori
 Jingjing L., Xue Y., Agarwal N., Roque R.S.; "Human Muller cells express VEGF183, a novel vascular endothelial growth factor.";
 MEDLINE=99165303; PubMed=10067980;
 SEQUENCE OF 114-209 FROM N.A.
 MEDLINE=98119755;
 SEQUENCE FROM N.A. (ISOFORM
 Lei J., Jiang A., Pei D.;
"Identification and characterization of a new splicing vascular endothelial growth factor: VEGF183.";
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 SEQUENCE
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 SEQUENCE
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 Weindel K., Marme
 MEDLINE=92231879;
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 Tischer
 Keck P.J., Hauser Connolly D.T.;
 MEDLINE=90069609;
 ddes J.C.,
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 permeability factor,
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 PubMed=1711045;
 PubMed=2479987;
S.D., Krivi G.,
 PubMed=9450968;
 PubMed=9878851;
 D., Weich H.A.;
 PubMed=1567395;
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 Fairbrother W.J., Champe M.A., Christi
Starovasnik M.A.;
"1H, 13C, and 15N backbone assignment
receptor-binding domain of vascular er
protein Sci. 6:2250-2260(1997).
 "Heterogeneous vascular endothelial growth factor (VEGF) and receptor mRNA expression in human glomeruli, and the identification of VEGF148 mRNA, a novel truncated splice
 MEDLINE=99119204; PubMed=9922142;
Wiesmann C., Christinger H.W., Co
Fairbrother W.J., Keenan C.J., Me
 X-RAY CRYSTALLOGRAPHY (1.93 MEDLINE=98035455; PubMed=939
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 SEQUENCE OF 23-232 FROM N.A. Rieder M.J., Armel T.Z., Carr Poel C.L., Toth B.J., Yi Q., Submitted (OCT-2001) to the E
 Fairbrother W.J.,
Starovasnik M.A.,
 Structure 5:1325-1338(1997).
 de Vos A.M.;
 MEDLINE=97352774; PubMed=9207067;
Muller Y.A., Li B., Christinger H.W.,
 X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS)
MEDLINE=97352774; PubMed=9207067;
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 MEDLINE=90062112;
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 SEQUENCE OF 27-41.
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, Whitney R.G.;
DNA for vascular endothelial growth factor isoform d (DEC-1999) to the EMBL/GenBank/DDBJ databases.
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 Chem. 264:20017-20024(1989).
structure of the heparin-binding
 (DEC-2000)
 97:303-312 (1999)
 37:17765-17772(1998).
 OF 137-215.
; PubMed=9634701;
 OF 34-135
 211:19-26(1993).
 Champe M.A.,
 PubMed=9336848;
Champe M.A., Christinger H.W.,
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 PubMed=2584205;
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 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its the European Bioinformatics Institute There are no restrictions on its content is in no way useful and the content is in no way
 poxvirus orf virus.";
 MEDLINE=94076465; PubMed=8254780;
 SEQUENCE FROM N.A.
 Viruses; dsDNA viruses,
 Orf virus (strain NZ2)
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 "Vascular endothelial growth factor induces cyclooxygenase-dependent proliferation of endothelial cells via the VEGF-2 receptor.";
 MEDLINE=21320570; PubMed=11427521; Murphy J.F., Fitzgerald D.J.;
 endothelial growth factor.";
Structure 6:637-648(1998).
 Lyttle D.J., Fraser K.M., Fleming S.B., Mercer A.A., Robinson A.J., "Homologs of vascular endothelial growth factor are encoded by the
 NCBI_TaxID=10259;
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 FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.
SUBUNIT: Homodimer; disulfide-linked (By similarity).
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 with PIGF (By similarity).
SUBCELULAR LOCATION: VEGF121 is acidic and freely secreted.
VEGF165 is more basic, has heparin-binding properties and,
although a signicant proportion remains cell-associated, most
freely secreted. VEGF189 is very basic; it is cell-associated
after secretion and is bound avidly by heparin and the
extracelular matrix, although it may be released as a soluble
form by heparin, heparinase or plasmin.
 heparin. Neuropilin-1 binds isotorms VEGF-165 and VEGF-145. SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 EB J. 15:1667-1669(2001).

FUNCTION: Growth factor active in angiogenesis, vasculogenesis endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the
 Name=VEGF189,
 Event=Alternative splicing; Named isoforms=7; Comment=Experimental confirmation may be la
 VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate heparin. Neuropilin-1 binds isoforms VEGF-165 and VEGF-145.
 ALTERNATIVE PRODUCTS:
 87
 IsoId=P15692-1;
 isoforms
 IsoId=P15692-2; Sequence=VSP_004622;
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 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
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Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
Bovidae; Caprinae; Ovis.
 01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor
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 heparin (By similarity).
-:- SUBUNIT: Homodimer; disulfide-linked.
with PIGF (By similarity).
-:- SIMILARITY: BELONGS TO THE PDGF/VEGF !
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 InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
EMBL; X89506; CAA61677.1;
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 factor (VEGF) in the ovine corpus luteum.";
J. Reprod. Fertil. 108:157-165(1996).
 Redmer D.A., Dai Y., Li
Reynolds L.P., Moor R.M.
 MEDLINE=97117958; PubMed=8958842;
 TISSUE=Kidney;
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 "Characterization and expression of vascular endothelial growth
 NCBI_TaxID=9940,
 VEGF OR VEGFA
 PROSITE;
 ProDom; PD001629; PD_growth_factor; 1.
 FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and
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PS50278; PDGF 2; 1.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
 ProDom; PD001629; PD_growth_factor; SMART; SM00141; PDGF; 1.
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HSSP; P15692;
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 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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 mitted (JAN-1992) to the EMBL/GenBank/DDBJ databases. FUNCTION: Growth factor active in angiogenesis, and cell growth. Induces endothelial proliferation and vermeability (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as
 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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SUBCELLULAR LOCATION: Secreted but
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 Ferrara N., Henzel W.J.;
"Pituitary follicular cells secrete a novel heparin-binding factor specific for vascular endothelial cells.",
Biochem. Biophys. Res. Commun. 161:851-858(1989).
-i- FUNCTION: Growth factor active in anglogenesis, vasculog
 Tischer E., Gospodarowicz D., Mitchell R., Silva M
Lau K., Crisp T., Fiddes J.C., Abraham J.A.,
"Vascular endothelial growth factor: a new member
derived growth factor gene family.";
Biochem. Biophys. Res. Commun. 165:1198-1206(1989)
 01-APR-1990 (Rel. 14, Created)
01-APR-1990 (Rel. 14, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPP).
 SEQUENCE FROM N.A., AND SEQUENCE OF 27-47.
MEDLINE=90069608; PubMed=2479986;
Leung D.W., Cachhanes G., Kuang W.-J., Goeddel D.V., Ferrara
"Vascular endothelial growth factor is a secreted angiogenic
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 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
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 MEDLINE=89286596;
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MEDLINE=90121225; PubMed=2610687;
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 NCBI_TaxID=9913;
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 endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits appotosis, induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate heparin (By similarity). SUBUNIT: Homodimer; disulfide-linked. Also found as heterodivith PlGF (By similarity).
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PROSITE; PS50278; PDGF 2; 1.

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Mitogen; Angiogenesis; Growth factor; Multigene family.
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EMBL; M33750; BAA03080.
PIR; B40080; B40080.
HSSP; P15692; 1VGH.
 Miura N., Misumi K., Kawahara K., Nakashima M., Fukumitsu S.,
Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.;
"Cloning of cDNA and high-level expression of equine vascular
endotherial growth factor (VEGF).";
Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Growth factor active in angiogenesis, and endothelial
cell growth. Induces endothelial proliferation and vascular
 permeability factor) (VPF).
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SMART; SM00141; PDGF; 1.
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SUBUNIT: Homodimer; disulfide-linked.
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 01-APR-1993 (Rel. 25,
01-OCT-1996 (Rel. 34,
15-SEP-2003 (Rel. 42,
Vascular endothelial
 SEQUENCE FROM N.A. (ISOFORM VEGETAL).
SEQUENCE FROM N.A. (ISOFORM VEGETAL).
MEDLINE=92355593; PubMed=1644816;
Claffey K.P., Wilkison W.O., Spiegelman B.
"Vascular endothelial growth factor. Regul
differentiation and activated second messe
I Biol. Chem. 267:16317-16322(1992).
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 PROSITE; PS00249; PDGF
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Mitogen; Angiogenesis;
Multigene family.
SEQUENCE OF 1-3 FROM N.A. MEDLINE=96216498; PubMed=Shima D.T., Kuroki M., De
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InterPro; IPR000072;
Pfam; PF00341; PDGF;
 or send an email to license@isb-sib.ch).
 the European Bioinformatics Institute. There are no restrictions use by mon-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/an
 Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
 Mus musculus (Mouse).
 permeability to
VEGF OR VEGFA.
 CHAIN
 SIGNAL
 ProDom; PD001629; PD_growth_factor;
SMART; SM00141; PDGF; 1.
 EMBL; AB053350;
 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
 similarity).
-!- SIMILARITY: BELONGS
 NCBI_TaxID=10090;
 to the extracellular matrix unless released
 98
 11;
 1 CNDEGLESVPTEE 13
 Similarity
 CNDEGLECVPTAE
 100
190
16498; PubMed=8632007;
Kuroki M., Deutsch U.
 Conservative
 ₽
A
 STANDARD;
 BAB20890.1;

 Last sequence update)
 Last annotation update)

 (ISOFORMS VEGF-1; VEGF-2
 190
190
93
127
129
76
 22312
 84.5%;
 growth factor A precursor (VPF).
 Created)
 98
 Deutsch U.,
 Growth
 _growth_factor.
 TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 MW;
 0;
 INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POT
 Score 60; DB 1;
Pred. No. 0.001;
 POTENTIAL.

VASCULAR ENDOTHELIAL GROWTH FACTOR
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
 Craniata; Vertebrata; Sciurognathi; Muridae;
 PRT;
 factor; Glycoprotein; Signal;
 87E9E161439E5F87 CRC64;
 Mismatches
 al growth factor during differentiation.";
Ng
 Risau W.;
 Regulation by messenger pat
 214
 ۲.,
 (See http://www.isb-sib.ch/announce/
 B
 Adamis A.P.,
 AND VEGF-3)
 ν
;
 Length 190;
 (VEGF-A)
 by heparin
 Indels
 cell
 Euteleostomi;
; Murinae; Mus
 (POTENTIAL).
 D'Amore P.A.;
 (Vascular
 embryonic
 θy
 <u>0</u>
 Mus
 Сарв
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EMBL; S37052; AAB22252.1; -.
EMBL; S38083; AAB22253.1; -.
EMBL; S38100; AAB22254.1; -.
EMBL; M95200; AAA40547.1; -.
EMBL; U41183; -; NOT_ANNOTATED_CDS.
PIR; A44881; A44881.
PIR; B44881; B44881.
 DISULFID
DISULFID
DISULFID
DISULFID
 PROSITE;
 the
 SEQUENCE
 VARSPLIC
 Heparin-binding; Alternative SIGNAL 1 26
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
 InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
 or send an email to license@isb-sib.ch).
 modified
 This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
 -
 -
 VARSPLIC
 VARSPLIC
 DISULFID
 Mitogen;
 entities requires a license agreement
 regulatory sequences."
J. Biol. Chem. 271:387
 characterization of transcriptional and post-transcriptional
 structure,
 CHAIN
 MGD; MGI:103178; Vegfa
 European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way ified and this statement is not removed. Usage by and for commercial ities requires a license agreement (See http://www.isb-sib.ch/announce/
 IsoId=Q00731-3; Sequence=VSP 004628; TISSUE SPECIFICITY: In developing embryos, expressed mainly in t choroid plexus, paraventricular neuroepithelium, placenta and kidney glomeruli. Also found in bronchial epithelium, adrenal gland and in seminiferous tubules of testis. High expression of VEGF continues in kidney glomeruli and choroid plexus in adults. DOMAIN: VEGF-3 contains a basic insert which acts as a cell
 Biol. Chem. 271:3877-3883(1996).
FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell
 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
 IsoId=Q00731-2; Sequence=VSP_004626, VSP_004627;
Name=VEGF-2; Synonyms=VEGF120;
 with PIGF (By similarity).
SUBCELLULAR LOCATION: VEGF-1 and VEGF-2 are secreted while VEGF-3
 heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 Name=VEGF-1; Synonyms=VEGF164,
 Event=Alternative splicing; Named isoforms=3;
Name=VEGF-3; Synonyms=VEGF188;
 proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFRI/Kdr receptors and to heparan sulfate and
 ALTERNATIVE PRODUCTS:
 retention signal.
 remains cell-surface associated unless released
 mouse gene for vascular endothelial growth factor. Genomic cture, definition of the transcriptional unit, and
 P15692; 2VPF.
 IsoId=Q00731-1; Sequence=Displayed;
 400141; PUGF, -:
PS00249; PDGF 1; 1.
PS50278; PDGF-2; 1.
PS50278; PDGF-2; 1.
Angiogenesis; Growth factor; Glycoprotein; Signal;
Angiogenesis; Growth factor; Multigene family.
BY SIMILARITY.
26
PM SIMILARITY.
RENDOTHELIAL GROWTH F:
 214 AA;
 141
 27
51
82
86
76
100
140
 214
93
127
129
76
85
100
 208
 164
 25283
 MW.
 /FTId=VSP 004628.
GE -> ER (IN REF. 2)
 Missing (in isoform VEGF-1)
/FTId=VSP 004627.
Missing (in isoform VEGF-2)
 N-LINKED (GLCNAC. . .) (PR
K -> N (in isoform VEGF-1)
 /FTId=VSP_004626.
Missing (in isofo
 INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
 BY SIMILARITY
 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
B5540B51E4BB6E17 CRC64;
 SIMILARITY.
 isoform VEGF-1).
 and the
 λĢ
 (PROBABLE).
 collaboration
 outstation
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 Query Match
Best Local S
Matches 10
 Disalvo J., Bayne M.I., Conn G., Kwok P.W., Trivedi P.G., Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.; Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.; "Purification and characterization of a naturally occurring vascular endothelial growth factor.placenta growth factor heterodimer."; J. Biol. Chem. 270:7717-7723 (1995).

-I- PUNCTION: Growth factor active in angiogenesis, vasculogenesis are endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFRZ/Kdr receptors and to heparan sulfate and heparin (By similarity).

-I- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with heparin (By similarity).
 Conn G., Bayne M.L., SQUELING.

Palisi T.M., Hope D.A., Thomas K.A.;

Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
 VEGA RAT STANDARD; PRT; 214 AA.

P16612; Q9UKX7; Q9QXG6; Q9QXG7;

01-AUG-1990 (Rel. 15, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 -
 ÷
 TISSUE=Glial
 SEQUENCE OF 27-40
 Submitted
 masseter muscle
 SEQUENCE FROM N.A. (ISOFORMS VEGF-A188; VEGF-A164; VEGF-A144
 SEQUENCE FROM N.A. (ISOFORM VEGF-A164), AND SEQUENCE MEDLINE=9207249; PubMed=2320579;
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rat
 Rattus norvegicus (Rat).
 MEDLINE=95221439;
 VEGF-A120)
 NCBI_TaxID=10116;
 VEGF OR VEGFA.
 Ishii H., Arakawa T., Okayama M., Oota I., Takuma T., Inomata K.;
"Developmental expression of vascular endothelial growth factor-A
(VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 i
 with PIGF (By similarity).

SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely secreted. VEGF-A164 is more basic, has heparin-binding properties and, although a signicant proportion remains cell-associated, most is freely secreted. VEGF-A188 is very basic; it is cell-associated after secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a soluble form by heparin, heparinase or plasmin (By similarity).

ALTERNATIVE PRODUCTS:
Event-Alternative splicing; Named isoforms=4;
Comment-Additional isoforms seem to exist;
 Name=VEGF-A164;
 Name=VEGF-A188;
 IsoId=P16612-2;
 IsoId=P16612-1;
 98
 1 CNDEGLESVPTEE 13
 Similarity
 (DEC-1999) to the EMBL/GenBank/DDBJ databases.
 Conservative
 tumor;
 PubMed=7706320;
 77.5%;
76.9%;
Sequence=VSP_004632
 Sequence=Displayed
 Sequence=VSP_004629, VSP_004630
 Score 55; DB 1;
Pred. No. 0.0098;
 Mismatches
 Length 214;
 Indels
 vasculogenesis and
 ဝှု
 27-190
 ٥,
 Rattus.
 Gaps
 rat
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ROCCOOS GERTTE
 VEGA
 밁
 δ
 RESULT 11
 Query Match
Best Local
 Matches
 Heparin-binding; Alternative springly and sp
 VEGA MESAU
Q99FS1;
28-FEB-2003
28-FEB-2003
 CONFLICT
 28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPP)
 MESAU
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
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Mesocricetus.
NCBI_TaxID=10036;
[1]
 Mammalia; Eutheria;
 Mesocricetus auratus (Golden hamster).
Eukaryota; Metazoa; Chordata; Craniata
 VARSPLIC
 VARSPLIC
 VARSPLIC
 Mitogen;
 PROSITE;
 Pfam; PF00341; PDGF; 1
 EMBL; AF222779; AAF25958.1; HSSP; P15692; 1VPP.
 EMBL; AF215725; AAF19211.1; -. EMBL; AF215726; AAF19212.1; -.
 EMBL; M32167; AAA41211.1; -.
 or send
 entities
 InterPro; IPR000072; PD_growth_factor
 ISOID=P16612-4; Sequence=VSP_004631; TISSUE SPECIFICITY: Expressed in the pituitary, in brain, in particularly in supraoptic and paraventricular nuclei and the choroid plexus. Also found abundantly in the corpus luteum of ovary and in kidney glomeruli.
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
 Similarity
10; Conserv
 s requires a license agreement (See http:\bar{I}/www.isb-sib.ch/announce/an email to license@isb-sib.ch).
 700141; row., 200249; PDGF_1; 1.
PS00249; PDGF_2; 1.
PS50278; PDGF_2; 1.
Anglogenesis; Crowth factor; Glycoprotein; Signa Anglogenesis; Crowth factor; Multigene family.
 CNDEGLESVPTEE
 CNDEALECVPTSE
 101
214
 Conservative
 165
 141
 141
 AΑ;
 STANDARD;
 101
25239
 208
 Chordata;
Rodentia;
 208
 164
 76.9%;
 77.5%;
 98
 WW;
 <u>,,</u>
 Score 55;
Pred. No.
 Pred. No. v.v.
); Mismatches
 ⋖
 Missing (i
 Missing
 N-LINKED (GLCNAC.
 INTERCHAIN (BY INTERCHAIN (BY
 Missing (In isoform VEGF-A120)
 VASCULAR ENDOTHELIAL GROWTH FACTOR
 Craniata; Vertebrata;
Sciurognathi; Muridae;
 /FTId=VSP_004629
 /FTId=VSP
 PRT;
 FTId=VSP
 -> A (IN REF. 2; 60FBB876F5304946
 -> N (in isoform VEGF-A164).
 SIMILARITY.
 SIMILARITY
 --vsp 004632.

> A (IN REP
PRECT
 190
 (in isoform VEGF-A144)
 0.0098;
 004630.
 004631.
 DB 1;
 A
 isoform VEGF-A164).
 SIMILARITY).
 SIMILARITY).
 Length 214;
 (VEGF-A)
 AAF19212
 Indels
 Euteleostomi
; Cricetinae;
 Signal;
 <u>.</u>
 Gaps
 A
 the
 0
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RESULT 12
VEGA_CHICK
 밁
 S
 Matches
 Query Match
Best Local
 VEGA_CHICK S
P52582; Q91420;
01-OCT-1996 (Rel
VEGF OR VEGFA. (Chicken), and Gallus gallus (Chicken), and Gallus gallus (Chicken) (Japanese quail). (Coturnix coturnix japonica (Japanese quail). Enteleostomi; Firervota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Firervota; Metazoa; Chordata; Calliformes; Phasianidae; Phasianicae; Phasiani
 01-0CT-1996 (Rel. 34, Created)
15-UTL-1998 (Rel. 36, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPP).
 CHAIN
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
CARBOHYD
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 MEDLINE-99311285; PubMed=10382276;
Yi X.J., Jiang H.Y., Lee K.K., Tang P.L.,
"Expression of vascular endothelial growt
 "Expression of vascular endothelial growth factor (VEC receptors during embryonic implantation in the golden
 SEQUENCE FROM N.A.
TISSUE=Decidua, and Embryo;
 permeability factor)
VEGF OR VEGFA.
 SEQUENCE
 Heparin-binding,
SIGNAL 1
 PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 SMART; SM00141; PDGF; 1
 ProDom;
 InterPro; IPR000072;
Pfam; PF00341; PDGF;
 EMBL; AF063013; AAK00049.1; -. HSSP; P15692; 1VGH.
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 entities requires a license agreement (See http://www.isb-sib.ch/announce/
 (Mesocricetus auratus).";

Cell Trissue Res. 226:339-349(1999).

In issue Res. 226:339-349(1999).

endothellal cell growth. It induces endothelial cell endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate an
 heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also
 SUBCELLULAR LOCATION: Secreted but to the extracellular matrix unless
 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 86
 9
 PD001629; PD_growth_factor; 1.
 Similarity
 PlGF (By similarity).
 CNDEGLESVPTEE 13
 CSDEALECVPTSE
 1
51
82
86
86
86
76
100
 Conservative
 <u>Α</u>
 STANDARD;
 Multigene
 PDGF
 190
190
127
127
100
 22276
 PD_growth_factor.
 70.4%;
69.2%;
 98
 WW.
 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY GOTENTIAL).
N-LINKED (GICNAC. . .) (POTENTIAL).
MW; FOOCSABEA79A465F CRC64;
 Score 50; DB 1;
Pred. No. 0.071;
1; Mismatches
 BY SIMILARITY
 216
 remains associated released by heparin
 DB 1;
 ₿
 Chow P.H.;
 Length 190;
 (VEGF-A) (Vascular
 found as
 (VEGF)
 heterodimer
 and
 Phasianinae;
 sulfate and
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 cells
 Gaps
 and
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the European Bioinformatics Institute. The use by non-profit institutions as long a modified and this statement is not removed. entitles requires a license agreement (See lor send an email to license@isb-sib.ch).
 Plamme I., Breier G., Risau W.;
"Vascular endothelial growth factor (VEGF) and VEGF receptor (flk-1) are expressed during vasculogenesis and vascular differentiation in the quail embryo.";
Dev. Biol. 169:699-712(1995).
 EMBL; AB011078; BAA24925.1; -.
EMBL; S79680; AAB35371.1; -.
HSSP; P15692; 1VGH.
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 +
 SPECIES=C.c.japonica;
MEDLINE=95301109; PubMed=7781909;
 Flamme I. von Reutern M., Drexler H.C., Syed-Ali S., Risau W.; "Overexpression of vascular endothelial growth factor in the avian embryo induces hypervascularization and increased vascular permeability without alterations of embryonic pattern formation.";
 SPECIES-C.
 SEQUENCE FROM
PROSITE; PS00249; PDGF 1; 1.

PROSITE; PS50278; PDGF_2; 1.

Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal; Heparin-binding; Alternative splicing; Multigene family.
 +
 SEQUENCE OF 60-187
 Dev. Biol. 171:399-414(1995).
 SPECIES=C.c.japonica; TISSUE=Embryo; MEDLINE=96005007; PubMed=7556923;
 SEQUENCE FROM N.A.
 Takahashi T.;
 SPECIES=Chicken;
 NCBI_TaxID=9031,
[1]
 ProDom; PD001629; PD_growth_factor; SMART; SM00141; PDGF; 1.
 InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
 "Chick embryonic ventricular myocytes VEGF.";
 IsoId=P52582-3; Sequence=VSP_004635, VSP_004636;
Note=Has been shown to exist only in qually so far;
TISSUE SPECIFICITY: Abundantly and equally expressed in heart and liver. In kidney glomeruli, brain and yolk sac, VEGF-166 is 5- to 10-times more abundant than VEGF-190.
DEVELOPMENTAL STAGE: VEGF-166 is expressed early at day 1 and is upgraded during gastrulation. Expression of VEGF-190 is detectable only from day 2.
DOWALN: VEGF-190 contains a basic insert which acts as a cell
 FUNCTION: Growth factor active in angiogenesis, vasculogenesis and the lial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).

SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 ALTERNATIVE PRODUCTS:
 Name=VEGF-146;
 Name=VEGF-166;
 Name=VEGF-190;
 Event=Alternative splicing; Named isoforms=3; Comment=Additional isoforms seem to exist;
 retention signal
 with PlGF (By similarity).
 Note=Has been shown
 IsoId=P52582-1; Sequence=Displayed;
 IsoId=P52582-2; Sequence=VSP_004633, VSP_004634;
Note=Has been shown to exist only in quail so fa
 (FEB-1998), to the EMBL/GenBank/DDBJ databases
 TISSUE=Heart;
 93934;
 FROM N.A.
 (ISOFORMS VEGF-190; VEGF-166 AND VEGF-146)
 (ISOFORMS
 (See http://www.isb-sib.ch/announce/
 VEGF-190 AND VEGF-166).
 There are no restrictions of as its content is in
 and to heparan sulfate and
 Usage
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 vasculogenesis and
 and for
 EMBL
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 collaboration
 outstation
 commercial
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RESULT 13
FLR1_HUMAN
밁
 S
 Matches
 Query Match
MIM; 604806; -. GO:0005887; C:integral to plasma membrane; NAS. GO; GO:0005887; C:integral to plasma membrane; NAS. GO; GO:0005022; F:adhesive extracellular matrix constituent GO; GO:0005057; F:receptor signaling protein activity; NAS. InterPro; IPR003961; FN III.
 28-FEB-2003
28-FEB-2003
15-SEP-2003
 SIGNAL
CHAIN
DISULFID
DISULFID
DISULFID
DISULFID
 entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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 Lacy S.E., Bonnemann C.G., Buzney E.A., Kunkel "Identification of FLATI, FLATZ, and FLAT3: a transmembrane leucine-rich repeat proteins."; Genomics 62:417-426(1999).
 Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 SEQUENCE
 VARSPLIC
 Genew; HGNC:3760; FLRT1.
 EMBL; AF169675; AAF28459.1; ALT_INIT.
 ++
 SEQUENCE FROM N.A.,
 FLRT1.
 28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Leucine-rich repeat transmembrane protein FLRT1 protein-rich repeat transmembrane protein FLRT1 protein-rich
 Q9NZŪ1;
 FLR1 HUMAN
 VARSPLIC
 VARSPLIC
 VARSPLIC
 CARBOHYD
 DISULFID

 -!- FUNCTION: May have a function in cell adhesion and/or receptor

 MEDLINE=20112755; PubMed=10644439;
 NCBI_TaxID=9606;
 Local
 PTM: N-glycosylated.
SIMILARITY: Contains 1 fibronectin type
SIMILARITY: Contains 10 leucine-rich (LR
 SUBCELLULAR LOCATION: Type I m
 87
 μ
 Similarity
8; Conserv
 CNDEGLESVPTE 12
 CGDEGLECVPVD
 216
 Conservative
 167
 166
 1
27
52
83
87
77
77
101
 Ą
 STANDARD;
 26
216
94
128
130
130
77
86
101
 210
 166
 166
 TISSUE SPECIFICITY, AND GYLCOSYLATION
 25203
 66.2%;
 98
 WW;
 Pred. No.
 Score 47;
 /PTId=VSP_004635.
Missing (In isoform VEGF-146)
/PTId=VSP_004636.
 Missing (In isoform VEGF-166)
/FTId=VSP_004634.
F -> L (in isoform VEGF-146).
 N-LINKED (GLCNAC.
 BY SIMILARITY.

VASCULAR ENDOTHELIAL GROWTH FACTOR A.
BY SIMILARITY.

BY SIMILARITY.
 INTERCHAIN (BY SIMILARITY)
INTERCHAIN (BY SIMILARITY)
 FTId=VSP_
 -> N (in isoform VEGF-166).
 I membrane protein (Probable)
 82E669C2F6FC6DA7
 Mismatches
 SIMILARITY
 in kidney
 646
 0
 DB 1;
 004633
 Kunkel L.M.
 . 29;
 (LRR) repeats.
 III domain.
 and brain.
 novel family
 ű
V
 Length 216;
 precursor
h transmembrane
 CRC64;
 Indels
 (POTENTIAL).
 ā
 0
 protein
 Сарв
 NAS
 0
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 Pfam; PF00041; fn3; 1.

DR Pfam; PF00041; fn3; 1.

Pfam; PF00560; LRR; 8.

Pfam; PF01463; LRRCT; 1.

R Pfam; PF01463; LRRNT; 1.

R SMART; SM00060; FN3; 1.

SMART; SM00060; FN3; 1.

SMART; SM00082; LRRCT; 1.

SMART; SM00082; LRRCT; 1.
 RESULT 14
VEGB_BOVIN
 밁
 Query Match
Best Local S
Matches 7
 Q9XS49; Q9GLX2; Q9XS48;
28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor B precursor
CARBOHYD
CARBOHYD
 REPEAT
REPEAT
REPEAT
REPEAT
REPEAT
REPEAT
REPEAT
 DOMAIN
TRANSMEM
 Bos taurus (Bovine).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea

Bovidae; Bovinae; Bos.

NCBI_TaxID=9913;
 REPEAT
REPEAT
REPEAT
 Liu X., Yonekura H., Yamagishi S., 1
"Structure and expression of bovine
Submitted (MAY-1997) to the EMBL/Ger
 SEQUENCE FROM
TISSUE=Heart;
 SEQUENCE
 REPEAT
 DOMAIN
 CHAIN
 Glycoprotein.
SIGNAL
 SMART; SM00013; LRRNT; 1.
Cell adhesion; Repeat; Signal; Transmembrane; Leucine-rich repeat;
 SEQUENCE OF 38-104 FROM N.A.
 TISSUE=Heart;
 BOVIN
 OR VRF
 39
 Similarity 7; Conserv
 (VRF).
 FROM N.A.
 CNDRGLTSIPAD 50
 CNDEGLESVPTE
 IPR000372;
IPR003591;
 IPR000483; LRR_Cterm. IPR000372; LRR_Nterm.
 646
 194
219
242
265
407
221
 21
525
546
546
78
78
123
148
170
 Conservative
 1
21
 ΑA,
 STANDARD;
 147
169
192
218
241
264
288
485
221
 20
646
 71359
 64.8%;
58.3%;
 LRR_typ.
 12
 ₩;
 EMBL/GenBank/DDBJ
 2
 Score
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 LRR
LRR
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LRR
 N-LINKED (GLCNAC. . .)
N-LINKED (GLCNAC. . .)
 LRR
 FLRT1.
 FIBRONECTIN TYPE-III.
 LRR
 CYTOPLASMIC (POTENTIAL)
 EXTRACELLULAR
 LEUCINE-RICH
 PRT;
 FF2BF5DC3CA13C92
 Mismatches
 No.
 Yamamoto Y., Yamamoto H.;
e VEGF family.";
 207
 DB 1;
1.5;
 AA.
 REPEAT TRANSMEMBRANE PROTEIN
 (POTENTIAL)
 u
۲۰
 databases
 Length 646;
 (VEGF-B) (VEGF related
 CRC64;
 Indels
 VEGF-B167 binds
 (POTENTIAL)
 (POTENTIAL)
 heterodimer
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RESULT 15
VEGB_HUMAN
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Matches
 VEGB_HUMAN STANDARD;
P49765; Q16528;
P49765-7 Q16528;
01-OCT-1996 (Rel. 34, Created)
28-FEB-2003 (Rel. 41, Last sec
15-SEP-2003 (Rel. 42, Last and
Vascular endothelial growth fi
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 the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for contenting the statement is not removed.
 PRINTS; PR00438; GFCYSKNOT.
ProDom; PD001629; PD_growth_factor;
SMART; SM00141; PDGF; 1.
 InterPro; IPR002400;
InterPro; IPR000072;
Pfam; PF00341; PDGF;
 EMBL; AB004274; BAA77686.1;
EMBL; AB004273; BAA77685.1;
EMBL; AF099134; AAG29746.1;
 VEGFB OR VRF.
Homo sapiens (Human)
 SEQUENCE
 VARSPLIC
 CHAIN
 SIGNAL
 Mitogen; Growth factor; Alternative splicing; M
 PROSITE; PS00249; PDGF_1; PROSITE; PS50278; PDGF_2;
 entities requires a license agreement (S or send an email to license@isb-sib.ch).
 This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
Eukaryota; Metazoa;
 factor) (VRF).
 VARSPLIC
 HSSP; P15692; 1VPP
 SIMILARITY: BELONGS
 similarity).
ALTERNATIVE PRODUCTS:
 with vegf (By similarity).
SUBCELLULAR LOCATION: Secr.
 Name=VEGF-B167
 Name=VEGF-B186;
 Event=Alternative
 to the extracellular matrix
 82
 IsoId=Q9XS49-2;
[M: VEGF-B186 is
 IsoId=Q9XS49-1;
 comment=Additional isoforms
 μ.
 Similarity
8; Conserv
 CNDEGLESVPT
 CPDDGLECVPT
 207
 Conservative
 189
 22
47
78
82
72
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81
137
 A,
 licing;
 34, Createu,
41, Last sequence update)
42, Last annotation updat
42, Tast annotation updat
 207
207
122
124
72
81
188
 207
 Chordata; Craniata; Vertebrata; Euteleostomi;
 21655 MW;
 63.4%;
 GF_cysknot.
PD_growth_factor.
 11
 92
 Multigene family.
1 POTENTIAL.
 Sequence=VSP_004637,
O-glycosylated (By s:
 Sequence=Displayed;
 equence=VSP_004637, VSP_004638;
-glycosylated (By similarity).
TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 Glycoprotein;
 Secreted
 Score 45;
Pred. No.
 Missing (In isoform /FTId=VSP 004638.
 AAPSAASALTP -> SPRPLCPRCPQI
RRSFLRCQGRGLELNPDTCRCRKLRR
 RASTPHEROPRSVPGWDPAPGAPSPADITHPTPAPGPSAH
AAPSAASALTP -> SPRPLCPRCPQRRQRPDPRTCHCRCR
 INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
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 VASCULAR ENDOTHELIAL
BY SIMILARITY.
BY SIMILARITY.
 VEGF-B167)
 FTId=VSP
 PRT;
 646C82DAIBE17782 CRC64;
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo

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collaboration outstation

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RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buctow K.H., Schaefer C.F., Bhat N.K.,
RA Altschul S.F., Zeeberg B., Buctow K.H., Schaefer C.F., Bhat N.K.,
RA Altschul S.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Stalleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Stalleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schmutz J.M., Warra M.A.;
RGeneration and initial analysis of more than 15,000 full-length
RT Thuman and mouse cDNA sequences.",
Thuman and mouse cDNA sequences.",
Thuman and mouse cDNA sequences.",
Thuman and mouse cDNA sequences.",
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Thuman and mouse cDNA sequences.",
Thuman and mouse cDNA sequences.
 MEDLINE=96197355; PubMed=8637916;
Olofsson B., Pajusola K., Kaipainen A., von Euler G., Joukov Saksela O., Orpana A., Pettersson R.F., Alitalo K., Eriksson "Vascular endothelial growth factor B, a novel growth factor endothelial cells.";
 splice
J. Biol
 "Genomic organization of the mouse and human genes for vascular endothelial growth factor B (VEGF-B) and characterization of a second
 SEQUENCE FROM N.A.
TISSUE=Fibrosarcoma
 Hayward N.K., Weber G.;
"Cloning and characterization of a novel human
"Cloning and characterization of a novel human
vascular endothelial growth factor.";
Genome Res. 6:124-131(1996).
 SEQUENCE
TISSUE-Petal brain;
MEDLINE-97077124; PubMed-8919691;
MEDLINE-97077124; PubMed-8919691;
MEDLINE-97077124; PubMed-8919691;
MEDLINE-97077124; PubMed-8919691;
 SEQUENCE FROM N.A. (ISOFORM VEGF-B186). TISSUE=Tonsil;
 Olofsson
 MEDLINE=96325041; PubMed=8702615;
 MEDLINE=22388257; PubMed=12477932;
 Proc. Natl. Acad. Sci. U.S.A. 93:2576-2581(1996)
 NCBI_TaxID=9606
 Biol.
TISSUE SPECIFICITY: Expressed In all tissues except liver. His levels found in heart, skeletal muscle and pancreas. PTM: VEGF-B186 is O-glycosylated (By similarity). SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
 SUBCELLULAR LOCATION:
 VEGF-B186 is regulated by proteolysis. SUBUNIT: Homodimer; disulfide-linked.
 ALTERNATIVE PRODUCTS:
Event=Alternative splicing; Named isoforms=2;
 Name=VEGF-B167;
 Name=VEGF-B186;
 with vegf
 to the extracellular matrix unless
 Comment=Additional
 IsoId=P49765-2; Sequence=VSP_
 IsoId=P49765-1; Sequence=Displayed;
 isoform
 FROM N.A.
 B., Pajusola
U.;
 271:19310-19317(1996).
 (ISOFORM VEGF-B186).
 (ISOFORM VEGF-B167).
 K., von
 isoforms seem to
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 ence=VSP 004639, VSP 004640;
pressed in all tissues except liver. Highest
skeletal muscle and pancreas.
 Euler G.,
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 AND VEGF-B167).
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 Silins G., Townson S., Nordenskjoeld M., Ward
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 Joukov V.,
Eriksson U.;
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 Matches
 Query Match
Best Local (
 EMBL; U43369; AAA91462.1; -.
EMBL; U43369; AAA91463.1; -.
EMBL; U52819; AAC50721.1; -.
EMBL; U48801; AAB06274.1; -.
EMBL; EC008818; AAH08818.1; -.
HSSP; P15692; 1VPP.
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DISULFID
DISULFID
DISULFID
 MIM; 601398; ...
GO; GO:0005576; C:extracellular; NAS.
GO; GO:0005576; C:extracellular; NAS.
GO; GO:0005172; F:vascular endothelial growth factor receptor...
GO; GO:0005174; F:vositive regulation of cell proliferation; TAS.
GO; GO:0001558; F:regulation of cell growth; NAS.
GO; GO:0007165; P:signal transduction; TAS.
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ProDom; PD001629; PD_growth_factor;
SMART; SM00141; PDGF; 1.
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Genew; HGNC:12681; VEGFB.
 VARSPLIC
 CHAIN
 SIGNAL
 Alternative splicing;
 Pfam; PF00341; PDGF;
 entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
 VARSPLIC
 Mitogen; Growth
 PROSITE;
 PROSITE; PS00249; PDGF
 Local Similarity
82
 8
'-
 PS50278; PDGF 2;
Growth factor; G
 CNDEGLESVPT
CPDDGLECVPT
 207 AA;
 Conservative
 189
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22
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137
 AAH08818.1; -.
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207
89
122
124
72
188
 21602
 63.4%;
72.7%;
 11
92
 Multigene family.
 Glycoprotein;
 MW;
 Score 45; I
Pred. No. 0.
 Missing
 RAATPHHRPQPRSVPGWDSAPGAPSPADITHPTPAPGPSAH
AAPSTTSALTP -> SPRPLCPRCTQHHQRPDPRTCRCRCR
RRSFLRCQGRGLELNPDTCRCRKLRR (in isoform
 INTERCHAIN (BY SIMILARITY)
INTERCHAIN (BY SIMILARITY)
 VASCULAR ENDOTHELIAL
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
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 /FTId=VSP
 EDE4B1CODFDAD6BC CRC64;
 Mismatches
 (in isoform VEGF-B167)
 Signal; Heparin-binding;
 004640
 004639
 DB 1;
 . 64;
 Length 207
 Indels
 GROWTH FACTOR
 0
 Gaps
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 0
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Search completed: January 30, 2004, 11:41:06 Job time : 3 secs

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Title:
Perfect score:
Sequence:
 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
 Minimum DB seq length: 0
Maximum DB seq length: 2000000000
 Total number of hits satisfying chosen parameters:
 Database :
 Searched:
 Scoring table:
 Run on:
 OM protein - protein search, using sw model
 SPTREMBL 23:*

1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_blage:*
10: sp_blant:*
11: sp_vrdent:*
12: sp_virus:*
13: sp_vrtebrate:
14: sp_unclassifie:
15: sp_archeap:*
17: sp_archeap:*
 January 30, 2004, 11:33:38; Search time 13.4667 Seconds (without alignments) 249.110 Million cell updates/sec
 830525 seqs, 258052604 residues
 BLOSUM62
 US-09-266-543-8
71
 Gapop 10.0 , Gapext 0.5
 CNDEGLESVPTEE 13
 GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.
 sp_invertebrate:*
sp_mammal:*
sp_mhc:*
sp_rodent:*
sp_virus:*
sp_vertebrate:*
sp_unclassified:*
sp_rvirus:*
sp_bacteriap:*
sp_archeap:*
 sp_organelle:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

| 16     | 15           | 14            | 13          | 12     | 11     | 10            | ø      | 00          | 7             | σ           | ທ             | 4.         | w           | 2          |              | Result<br>No. Sc |
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| 60     | 60           | 60            | 60          | 60     | 60     | 60            | 66     | 66          | 66            | 66          | 66            | 66         | 66          | 66         | 66           | Score            |
| 84.5   | 84.5         | 84.5          | 84.5        | 84.5   | 84.5   | 84.5          | 93.0   | 93.0        | 93.0          | 93.0        | 93.0          | 93.0       | 93.0        | 93.0       | 93.0         | Query<br>Match   |
| 123    | 118          | 109           | 78          | 75     | 68     | 65            | 191    | 191         | 191           | 189         | 184           | 127        | 126         | 124        | 124          | Length           |
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| Q9N1S1 | Q9MZB1       | QBMIN1        | Q9N1S2      | 018843 | 097500 | QBMINO        | Q95NE5 | Q96L82      | Q96KJ0        | Q95LQ4      | Q8HY70        | Q8WMQ4     | Q9BDP7      | Q8SPZ9     | Q9GK00       | ID               |
| Q9n1s1 | Q9mzb1       | Q8min1        | Q9n1s2      | 018843 | 097500 | Q8min0        | Q95ne5 | Q96182      | Q96kj0        | Q951q4      | Q8hy70        | Q8wmq4     | Q9bdp7      | Q8spz9     | Q9gk00       | Description      |
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| 5      | 44      | 43          | 42          | 41          | 40          | 39          | 38          | 37          | 36          | 35            | 34          |                    |             | 31          | 30     | 29     | 28     | 27     | 26     | 25     | 24     | 23            | 22          | 21          | 20         | 19        | 18        | 17          |
|--------|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|-------------|--------------------|-------------|-------------|--------|--------|--------|--------|--------|--------|--------|---------------|-------------|-------------|------------|-----------|-----------|-------------|
| 4      | 41      | 41          | 41          | 42          | 42          | 42          | 42          | 42          | 42          | 43            | 43          | 44                 | 45          | 46          | 46     | 50     | 55     | 55     | 55     | 55     | 55     | 55            | 55          | 55          | 60         | 60        | 60        | 60          |
| 57.7   |         |             |             |             |             |             | 59.2        |             |             |               |             | 62.0               | 63.4        | 64.8        | 64.8   | 70.4   |        | 77.5   | •      | 77.5   | •      | •             | •           | •           | 84.5       | •         | •         | 84.5        |
| 460    | 266     | 264         | 263         | 1791        | 1790        | 1624        | 933         | 826         | 396         | 3107          | 325         | 251                | 188         | 674         | 670    | 142    | 194    | 190    | 190    | 188    | 148    | 144           | 141         | 110         | 190        | 132       | 131       | 128         |
| 10     | N       | N           | N           | 4           | 4           | 4           | v           | 4           | 4.          | 12            | 4           | 17                 | 4           | 4           | 10     | 11     | 13     | 11     | 11     | 13     | 13     | 13            | 11          | 11          | σ          | 12        | σ         | თ           |
| Q9FYM9 | Q9LCZ1  | Q9KH06      | 085824      | Q9BXP8      | Q96PH8      | Q9H4C9      | Q9BJDS      | Q96PH7      | Q9NUF4      | P87587        | Q8NAB7      | 052002             | Q8TEV2      | Q8WVA2      | 065749 | Q9ERL6 | 042572 | Q9QX39 | Q91ZE1 | 073682 | 042571 | 073822        | 070123      | 088911      | 077643     | Q9YMF3    | Q8MJ86    | Q8SPL5      |
|        |         |             |             |             |             |             |             |             |             |               |             |                    |             |             |        |        |        |        |        |        |        |               |             |             |            |           |           | -           |
| Q9fym9 | Q9lcz1  | Q9kh06      | 085824      | Q9bxp8      | Q96ph8      | Q9h4c9      | Q9bjd5      | Q96ph7      | Q9nuf4      | P87587        | Q8nab7      | 052002             | Q8tev2      | Q8wva2      | 065749 | Q9er16 | 042572 | Q9qx39 | Q91ze1 | 073682 | 042571 | 073822        | 070123      | 088911      | 077643     | Q9ymf3    | Q8mj86    | Q8ep15      |
| arabid | thermus | thermus aqu | thermus the | homo sapien | homo sapien | homo sapien | strongyloce | homo sapien | homo sapien | 7 citrus tris | homo sapien | O52002 halobacteri | homo sapien | homo sapien |        |        |        |        |        |        |        | 2 brachydanio | mus musculu | rattus norv | ovis aries | orf virus | capreolus | equus cabal |

### ALIGNMENTS

| Qy 1 CNDEGLESVPTEE               Db 47 CNDEGLECVPTEE | Query Match Best Local Similarity 92. Matches 12; Conservative                                            | 124 AA;                           | NON_TER 1 | DR PROSITE; PS00249; PDGF 1 | DR SMART; SM00141; PDGF; 1. | Pfam; PF00341; PDGF; | InterPro; IPR000072; | DR EMBL; AJ278192; CAC19923.1; |                                                                                                                       |                 | •• | RN [1] | NCBI Tarin-9483:                                         | Eukaryota; Metazoa;                           | Callithrix jacchus | Vaccular and             | DT 01-MAK-2001 (Tramburel. | 01-MAR-2001 | Q9GK00; |                  | RESULT 1<br>Q9GK00 |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------|-----------|-----------------------------|-----------------------------|----------------------|----------------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------|----|--------|----------------------------------------------------------|-----------------------------------------------|--------------------|--------------------------|----------------------------|-------------|---------|------------------|--------------------|
| E 13                                                 | 93.0%; Score 66; DB 6; Length 124;<br>92.3%; Pred. No. 0.00018;<br>ive 0; Mismatches 1; Indels 0; Gaps 0; | 14548 MW; AA6F8CAFFCF0A0CC CRC64; |           | F. 1, 1.                    | growci_raccor; i.           | 1.                   | PD_growth_factor.    | 923.1; '                       | "grown11 Lactor expression in marmoset monkey ovidacts.";<br>Submitted (MAY-2000) to the EMB1/GenBank/DDBJ databases. | eringpanter x.; |    |        | rtimaces, frac/triiiir, carrierrelliadae, carrielliadae. | Chordata; Craniata; Vertebrata; Euteleostomi; | rmoset).           | arouth factor (Fragment) | 33 T.agt                   | 16, Creat   | •       | RY; PRT; 124 AA. |                    |

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 01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-MR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor (Fragment)
Macaca mulatta (Rhesus macaque).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria, Primates; Catarrhini; Cercopithecidae;
 "The expression of VEGF in porcine collateral-dependent myocardial exercise training.";
Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AP461807; AAL455286.1; -.
InterPro; IPR000072; PD_growth_factor.
Pf4am; PF00341; PDGF; 1.
ProDOm; PD001452; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS00278; PDGF 2; 1.
NON_TER 124 124
124
124
1252 MW; 2E1C1A009E67C9C9 CRC64;
 NON_TER
NON_TER
SEQUENCE
 PROSITE;
 "Rhesus macaque VEGF mRNA se
Submitted (JAN-2001) to the
EMBL; AF339737; AAK26379.1;
HSSP; P49763; 1FZV.
 Q9BDP7;
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
 InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
 Hazzard T.M., Nayak N.R.,
 SEQUENCE FROM N.A.
 NCBI_TaxID=9544;
 Cercopithecinae; Macaca.
 NCBI_TaxID=9823;
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
 Sus scrofa (Pig).
 01-JUN-2002 (TrEMBLrel. 21, 01-JUN-2002 (TrEMBLrel. 21, 01-OCT-2002 (TrEMBLrel. 22, Vascular endothelial growth
 Q8SPZ9;
 Q8SPZ9
 Yuan H., Li J.;
 TISSUE=Myocardium;
 SEQUENCE FROM N.A.
 58
 l Similarity
12; Conserv
 l Similarity
12; Conserv
 PS00249; PDGF 1; 1.
PS50278; PDGF 2; 1.
 CNDEGLECVPTEE
 CNDEGLESVPTEE 13
 126
126 AA;
 Conservative
 Conservative
 PRELIMINARY;
 PRELIMINARY;
 14599 MW;
 93.0%;
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 Jia Y., Stouffer R.L.;
 sequence
Score 66; DB Pred. No. 0.00 0; Mismatches
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Last annotation update)
factor (Fragment).
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 EMBL/GenBank/DDBJ databases
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 Score 66;
Pred. No.
 Created)
 Pred. No. 0.00; Mismatches
 PRT;
 1175F2386A883BCF CRC64;
 126
 124
 0.00018;
 DB 6; Length 126;
 DB 6;
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 Length 124;
 Indels
 Euteleostomi;
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RESULT 5
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Q8HY70;
01-MAR-2003
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 EMBL; AY158156; AAN76365.1;
NON_TER 184 184
 01-MAR-2003 (TrEMBLrel. 23,
01-MAR-2003 (TrEMBLrel. 23,
01-MAR-2003 (TrEMBLrel. 23,
Vascular endothelial growth
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
NON TER 127 127
 exercise training.";
Submitted (JAN-2002) to the EMBL/GenBank/DDBJ
EMBL, AY072734; AAL68393.1; -.
InterPro; IPR000072; PD growth factor.
Pfam; PF00341; PDGF; 1.
 Q8WMQ4
Q8WMQ4;
 Mustela vison.";
Submitted (OCT-2002) to the EMBL/GenBank/DDBJ
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Mustelidae; Mustelinae;
 NCBI_TaxID=9823;
 01-MAR-2002 (TrEMBLrel. 20, 01-MAR-2002 (TrEMBLrel. 20, 01-OCT-2002 (TrEMBLrel. 22,
 SEQUENCE
 Lopes F.L., Demarais J.A., Gevry N.Y., Ledoux S., Murphy B.D., "Expression of VEGF isoforms and receptors during implantation
 SEQUENCE FROM N.A.
 Mustela.
 Mustela vison (American mink).
 Yuan H., Li J.;
"The expression of VEGF
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
 Sus scrofa (Pig).
 Vascular endothelial growth
 NCBI_TaxID=9667;
 TISSUE=Myocardium;
 SEQUENCE FROM N.A.
 44 CNDEGLECVPTEE 56
 80
 12;
 l Similarity
12; Conserv
 1 CNDEGLESVPTEE
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 Similarity 92.:
L2; Conservative
 CNDEGLESVPTEE 13
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127 AA;
 184 AA;
 Conservative
 PRELIMINARY;
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 14920 MW;
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 Score 66; DB 6;
Pred. No. 0.00027;
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 Score 66;
Pred. No.
 BAD47CCB0C146F22 CRC64
 5AB63F01AEBC29ED CRC64;
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CNDEGLECVPTEE

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 (In) Unknown A. (edB.);
Proceedings of the 7th World Congress on Sydney, Australia (2001).

EMBL; AF430806; AAL27435.1;
InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00278; PDGF_2; 1.
SEQUENCE 191 AA; 22258 MW; D25243E54
 Q95LQ4
Q95LQ4;
01-DEC-2001
01-DEC-2001
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
SEQUENCE 189 AA; 22T93 MW; C1E4646
 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor 165b.
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 Koga L., Kobayashi Y., Yazawa M., Masuda K., Ohno K., Tsujimoto H.; "Nucleotide sequence and expression of the feline vascular endothelial growth factor."; Submitted (SEP-2001) to the EMBL/GenBank/DDBJ databases. EMBL, AB071947; BAB68520.1; -. InterPro; IPR000072; PD_growth_factor. PF00341; PDGF; 1.
 01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2003 (TrEMBLrel. 23, Last annotation update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor.
Felis silvestris catus (Cat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Chordata; Fissipedia; Felidae;
 01-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-MAR-2003 (TrEMBLrel. 23,
 TISSUE=Kidney;
Sugiono M., Winkler M., Gillatt D., Harper S.J., Bates
"A new isoform of vascular endothelial growth factor mR
regulated in renal tumors.";
 Q96KJ0;
 Q96KJ0
 SEQUENCE FROM N.A.
 SEQUENCE FROM N.A.
 NCBI_TaxID=9606;
 NCBI_TaxID=9685;
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 98
 1 CNDEGLESVPTEB 13
 l Similarity
12; Conserv
 Similarity
 CNDEGLESVPTEE 13
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 Score 66; DB 6;
Pred. No. 0.00028;
 Score 66;
Pred. No.
 C1E4646759AB3FD6 CRC64;
 D25243E540AC79BD CRC64;
 Mismatches
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 Microcirculation, pp.3-3
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 Length 191;
 Length 189;
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 Euteleostomi; Felis.
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RESULT 9
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Query Match
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Matches 12
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Q1-DEC-2001 (TrEMBLrel. 19, Cr
Q1-DEC-2001 (TrEMBLrel. 19, La
Q1-OCT-2002 (TrEMBLrel. 22, La
Q1-OCT-2002 (Tr
 Q95NE5;
Q95NE5;
01-DEC-2001
01-DEC-2001
01-OCT-2002
 Shima D.T., Gougos A., Miller J.W., Tolentino M., Robinson G., Adamis A.P., D'Amore P.A.;
"Cloning and mRNA expression of vascular endothelial growth factor ischemic retinas of Macaca fascicularis.";
Invest. Ophthalmol. Vis. Sci. 37:1334-1340(1996).
EMBL; 882167, AAB47118.1;
InterPro; IPR00072; PD_growth_factor.
Pfam; PP00341; PDCgr) 1.
 Pfam; PF00341; PDGF; 1.

ProDom; PD001629; PD growth factor; PROSITE; PS00249; PDGF 1; 1.

PROSITE; PS50278; PDGF 2; 1.

SEQUENCE 191 AA; 22314 MW; CCES
 Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
 SimVEGF165.
SIMVEGF165.
 Liu J., Peng X., Yuan J., Qiang B.; "Cloning of vascular endothelial growth factor (VEGF) cDNA."; Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AY047581; AAK95847.1;
 Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
 PRODOM; PD001629; PD growth factor; PROSITE; PS00249; PDGF 1; 1. PROSITE; PS50278; PDGF 2; 1. SEQUENCE 191 AA; 22314 MW; CCE5
 Cercopithecinae;
NCBI_TaxID=9541;
 SEQUENCE FROM N.A.
MEDLINE=96245208; PubMed=8641836;
 InterPro; IPR000072; PD_growth_factor.
 SEQUENCE FROM N.A.
 NCBI_TaxID=9606;
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 87
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th 93.0%;
Similarity 92.3%;
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llarity 92.3%;
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pred. No. 0.00028;
0; Mismatches 1;
 Score 66; DB 4;
Pred. No. 0.00028;
0; Mismatches 1
 Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
 CCE57097DD3779BD CRC64;
 CCE57097DD3779BD CRC64;
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 DB 6; Length 191;
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CNDEGLESVPTEE
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RESULT 11
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O1-MAY-1999 (TrEMBLrel. 10, L
O1-MAR-2003 (TrEMBLrel. 23, L
Vascular endothelial growth f
VEGF.
 Q8MINO;
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 SEQUENCE FROM N.A.
Inoue K., Kawabe Y., Kodama T.;
"Rabbit VEGF cDNA,partial.";
Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AB020216; BAA36949.1; -.
HSSP; P49763; 1FZV.
 PROSITE;
 "Changes of Messenger RNAs Encoding Vascuand Its Receptors during the Development Corpora Lutea.";
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecqra; Bovoidea; Bovidae; Caprinae; Capra.
 01-OCT-2002 (TrEMBLrel. 22,
01-OCT-2002 (TrEMBLrel. 22,
01-MAR-2003 (TrEMBLrel. 23,
Vascular endothelial growth
Capra hircus (Goat).
 SEQUENCE
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
 NCBI
 Eukaryota; Metazoa; Chordata; Craniata; vez
Mammalia; Eutheria; Lagomorpha; Leporidae;
 Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 SEQUENCE
 ProDom, PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
 InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
 Submitted (MAY-2002) to the EMBL/GenBank/DDBJ EMBL; AY114353; AAM76674.1; -.
 TISSUE=Corpus luteum;
Kawate N., Tsuji M., Tamada H.,
 Bovidae; Caprinae; Capra.
NCBI_TaxID=9925;
 Pfam; PF00341; PDGF; 1.
 SEQUENCE FROM N.A.
 InterPro; IPR000072; PD_growth_factor.
 _TaxID=9986;
 ທ
 H
 Similarity
 CNDESLECVPTEE 17
 CNDEGLESVPTEE 13
 PS50278; PDGF_2; 1.
 83
 65 AA; 7562 MW;
 Conservative
 PRELIMINARY;
 68
A,
 7819 MW;
 84.5%;
 Encoding Vascular
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factor (Fragment).
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factor 121 (Fragment).
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 Score 60; DB Pred. No. 0:00 0; Mismatches
 Created)
 687638661E98DEE0 CRC64;
 BA3E5384364B05E3 CRC64;
 PRT;
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 Inaba T.,
 (Fragment).
 83
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 0:0012;
 DB 6;
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 B
 Sawada T.;
 Oryctolagus.
 Endothelial
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 Length 65
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 Growth Factor of Caprine
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RESULT 12
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ID 01884
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 RESULT 13
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Vascular endothelial growth
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SEQUENCE
TISSUE=Testis;
MEDLINE=20532861; PubMed=11078967;
Wagener A., Blottner S., Goritz F.
 VEGF
 Q9N1S2;
Q9N1S2;
 ProDom; PD001629; PD growth factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
 Capreolus capreolus (Roe deer).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodacryla; Ruminantia; Pecora; Cervoide.
Cervidae; Odocoileinae; Capreolus.
 STRAIN-NEW ZEALAND WHITE; TISSUE-Skeletal muscle;
MEDLINE-98191144; PubMed=9530113;
Skorjanc D., Jaschinski F., Heine G., Pette D.;
Skorjanc I., Jaschinski F., Heine G., Pette D.;
"Sequential increases in capillarization and mitochondrial enzymes
low-frequency-stimulated rabbit muscle.";
low-frequency-stimulated rabbit muscle.";
low-frequency-stimulated rabbit muscle.";
 Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eu
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus
 01-JAN-1998 (TrEMBLrel. 05,
01-JAN-1998 (TrEMBLrel. 05,
01-MAR-2003 (TrEMBLrel. 23,
Vascular endothelial growth
 NCBI_TaxID=9858;
 InterPro; IPR000072;
Pfam; PF00341; PDGF;
 EMBL; AF022179; AAC15469.1; -. HSSP; P49763; IFZV.
 018843;
 018843
 SEQUENCE FROM N.A.
 PRINTS;
 SEQUENCE FROM N.A.
 NCBI_TaxID=9986;
 InterPro; IPR002400; GF_cysknot.
InterPro; IPR000072; PD_growth_factor.
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 Similarity
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 PR00438; GFCYSKNOT
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 CNDEGLESVPTEE 13
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 75 AA;
 PRELIMINARY;
 Conservative
 PRELIMINARY;
 Conservative
 8720 MW;
 84.5%;
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factor (Fragment).
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 Score 60;
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 Score 60; DB
Pred. No. 0.00
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 DDCE2C5B29E69359 CRC64;
 Mismatches
 Fickel J.;
 Ruminantia; Pecora; Cervoidea;
 DB 6;
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RESULT 15
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 InterPro; IPR00240; GF cysknot.
InterPro; IPR00072; PD_growth_factor.
Pfam; PP00341; PDGF; 1.
PRINTS; PR00438; GFCYSKNOT.
ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS00249; PDGF 2; 1.
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 SEQUENCE FROM N.A.
TISSUB-Corpus luteum;
TISSUB-Corpus luteum;
Kawate N., Tsuji M., Tamada H., Inaba T., Sawada T.;
KChanges of Messenger RNAs Encoding Vascular Endothelial
and Its Receptors during the Development and Maintenance
Corpora Lutea.";
Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AY114352; AAM76673.1;
InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1...
 01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelia growth factor 165 (Fragment).
 QBMINI;
01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last seq
01-MAR-2003 (TREMBLrel. 23, Last seq
01-MAR-2003 (TREMBLR)
 Anim. Reprod. Sci.
EMBL; AF152593; AAF
HSSP; P49763; 1FZV.
 ProDom; PD001629; PD_growth_factor; SMART; SM00141; PDGF; 1.
PROSITE; PSS0278; PDGF_2; 1.
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea; Bovidea; Caprinae; Capra.
 Capra hircus (Goat).
 Q8MIN1
 SEQUENCE
 capreolus)
 NCBI_TaxID=9925;
 Detection of
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 1 CNDEGLESVPTEE 13
 CNDESLECVPTEE 17
 CNDEGLESVPTEE 13
 CNDESLECVPTEE 37
 109 AA; 12656 MW;
 78 AA;
 Conservative
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 PRELIMINARY;
 growth factors in the testis of roe deer (Capreolus
 AAF73232.1;
 9131 MW;
 64:65-75 (2000) .
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Last annotation update)
factor (Fragment).
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 Score 60;
Pred. No.
 Score 60; DB 6;
Pred. No. 0.0014;
 7EB20DDFFC17847C CRC64;
 PRT;
 912657251A37E023 CRC64;
 Mismatches
 ba T., Sawada T.;
Vascular Endothelial Growth Factor
pment and Maintenance of Caprine
 118
 109
 DB 6; Length 109;
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 2; Indels
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 Query Match
Best Local Similarity
Matches 11; Conserv
 PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
NON_TER
SEQUENCE 118 AA; 13931 Maj
 Ovis aries (Sheep).

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;

Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;

Bovidae; Caprinae; Ovis.

MCBI_TaxID=9940;
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
 EMBL; AF250375; AAF75258.1; -.
HSSP; P49763; 1FZV.
InterPro; 1FR000072; PD_growth_factor.
 cells."
 Zheng J., Tsoi S.C., Magness R.R.; "Growth factor expression in ovine fetal placental artery
 Pfam; PF00341; PDGF;
 Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases
 TISSUE=Placental
 SEQUENCE FROM N.A.
83
 1 CNDEGLESVPTEE 13
CNDESLECVPTEE
 acental artery endothelium;
Tsoi S.C., Magness R.R.;
 118 AA; 13931 MW;
 Conservative
 84.5%;
70
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 Score 60; D
 757DC53AA56378A6 CRC64;
 Mismatches
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 Length 118;
 Indels
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Search completed: January 30, 2004, 11:44:42 Job time: 14.4667 secs

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|                 | an . |   | -8- | <b>*</b> |     |                                         |     |   |    |       | •   |  |      |
|                 |      |   |     |          |     |                                         |     |   |    |       |     |  |      |
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| 81 <sub>~</sub> | i .  |   |     |          |     |                                         |     | • |    |       |     |  |      |
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
 Minimum DB
Maximum DB
 Database
 Total number of hits satisfying chosen parameters:
 Scoring table:
 Sequence:
 Perfect score:
 Title:
 Run on:
 OM protein - protein search, using sw model
 seq length: 0
seq length: 2000000000
 BLOSUM62
 1107863 seqs, 158726573 residues
 January 30, 2004, 11:27:08; Search time 21.9077 Seconds (without alignments)
 Gapop 10.0 , Gapext 0.5
 A_Geneseq_19Jun03:*

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4: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*
 US-09-266-543-9
 CEESNITMQIMRIKPH
/SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1988 DAT: *
/SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1989 DAT: *
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/SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1992 DAT: *
/SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993 DAT: *
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/SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000 DAT: *
/SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2001 DAT: *
 GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd
 /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1986.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1987.DAT:*
 /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*
 SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1985.DAT:*
 115.924 Million cell updates/sec
 1107863
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

| ID  Description  AAB1850  Immunogenic peptid  AAB18548  Immunogenic peptid  AAW49805  AW49805  AAW49805  AAW49805  AAW49805  AAW49805  AAW49806  AAW49807  Polypeptide encode  AAW49801 | ID AAB1 AAB1 AAW4 AAE3 AAW3 AAW3 AAU0 AAB5 AAU0 | DB 211 211 221 224 222 224 222 224 222 222 | * | Query<br>100.0<br>100.0<br>89.5<br>89.5<br>89.5<br>89.5 | Score<br>86<br>77<br>77<br>77<br>77 | Result NO |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------|---|---------------------------------------------------------|-------------------------------------|-----------|
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------|---|---------------------------------------------------------|-------------------------------------|-----------|

|                   | 44                 |          | 42                | 41                 | 40                 | 39                 | 38                 | 37                 | 36                 | 35       | 34       | 33                 | 32                 | 31                 | 30                 | 29                 | 28                 | 27                 | 26                 | 25                 | 24                 | 23                 | 22                | 21                 | 20                 | 19                 | 18       | 17                | 16                 | 15                 | 14                | 13                 | 12                 | 1                  | 10                 |
|-------------------|--------------------|----------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------|----------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------|----------|-------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|
| 77                | 77                 | 77       | 77                | 77                 | 77                 | 77                 | 77                 | 77                 | 77                 | 77       | 77       | 77                 | 77                 | 77                 | 77                 | 77                 | 77                 | 77                 | 77                 | 77                 | 77                 | 77                 | 77                | 77                 | 77                 | 77                 | 77       | 77                | 77                 | 77                 | 77                | 77                 | 77                 | 77                 | 77                 |
| 89.5              | •                  | 89.5     |                   | •                  | •                  | •                  | •                  |                    | •                  | •        | •        | •                  |                    | •                  |                    | •                  | •                  | •                  | •                  | •                  |                    | •                  | •                 | •                  | •                  | •                  | •        | •                 | •                  | •                  | •                 | ٠                  | ٠                  | 89.5               | ٩                  |
| 147               | 147                | 145      | 145               | 145                | 145                | 145                | 145                | 141                | 127                | 127      | 127      | 127                | 127                | 126                | 126                | 126                | 121                | 121                | 121                | 121                | 121                | 121                | 121               | 121                | 121                | 121                | 121      | 121               | 121                | 110                | 110               | 110                | 110                | 110                | 105                |
| 17                | 16                 | 23       | 22                | 21                 | 21                 | 20                 | 19                 | 24                 | 22                 | 22       | 22       | 22                 | 22                 | 22                 | 22                 | 22                 | 24                 | 24                 | 22                 | 21                 | 20                 | 20                 | 19                | 17                 | 17                 | 17                 | 17       | 14                | 12                 | 23                 | 22                | 22                 | 21                 | 21                 | 22                 |
| AAR94001          | AAR91075           | ABB76300 | AAB50432          | AAY83034           | AAY69413           | AAY08279           | AAW56693           | ABG71756           | AAU08429           | AAU08427 | AAU08425 | AAU08423           | AAU08405           | AAU08413           | AAU08409           | AAU08403           | AAE32329           | ABB84619           | AAB50428           | AAY99848           | AAY08278           | AAY23943           | AAW40597          | AAR93977           | AAR96043           | AAW03677           | AAW09091 | AAR42607          | AAR11385           | ABB76304           | AAB50436          | AAG79276           | AAY83038           | AAY69417           | AAU08472           |
| VEGF121. Homo sap | Human vascular end |          | Human VEGF145. Ho | Human vascular end | Amino acid sequenc | Human growth facto | Vascular endotheli | Human vascular end | Polypeptide encode |          |          | Polypeptide encode | Human vascular end | Human VEGF121 mono | Mature human vascu | Human vascular end | Human growth facto | Amino acid sequenc | VEGF/VPF121. Homo | Vascular permeabil | Human vascular per | Vascular permeabil |          | Human VEGF-121. H | Human vascular end | Human vascular end | Human VEGF110. Ho | Primary sequence o | Human vascular end | Amino acid sequenc | Polypeptide encode |

#### ALIGNMENTS

# RESULT 1 AAB18550 AAB18550 standard; peptide; 16

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15-JAN-2001 (first entry)

AAB18550;

Immunogenic peptide fragment derived from FGF and/or VEGF.

arteriovenous malformation; corneal disease; rubeosis; neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia; arthritis; diabetic neovascularisation; macular degeneration; wound healing; peptic ulcer; Helicobacter related disease; fracture; keloid; vasculogenesis; hematopoiesis; ovulation; menstruation; Immunogenic peptide; fibroblast growth factor; FGF; VEGF; cancer; vascular endothelial growth factor; hyperproliferative disorder; haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis; telangiectasia; psoriasis; scleroderma; pyogenic granuloma; telangiectasia; psoriasis; scleroderma; pyogenic granuloma; myocardial angiogenesis; Crohn's disease; plaque neovascularisation; myocardial angiogenesis; Crohn's disease; plaque neovascularisation; placentation; scratch fever

Unidentified.

WO200053219-A2

10-MAR-2000; 2000WO-US06320.

11-MAR-1999; 9908-0266543.

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RESULT 2
AAB18548
ID AAB18548
ID AAB18548
AC AAB1
XX AAB1
XX Inmnu
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 AX FRANK REPORT OF THE REPORT
 Query Match
Best Local
 Matches
 vascular endothelial growth factor; hyperproliferative disorder; haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis; telangiectasia; psoriasis; scleroderma; pyogenic granuloma; myocardial angiogenesis; Crohn's disease; plaque neovascularisation;
 degeneration, wound healing, peptic ulcer, Helicobacter related diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovmenstruation, placentation and cat scratch fever.
 disease, plaque neovascularisation, arteriovenous malformations, corneal diseases, rubeosis, neovascular glaucoma, diabetic retinopathy, retrolental fibroplasia, arthritis, diabetic neovascularisation, macular
 An immunogenic composition useful for treating cancer or hyperproliferative disorders comprises an immunogenic peptide fragment of fibroblast growth factor and/or vascular endothelial growth factor
 Holaday
 11-MAR-1999;
 14-SEP-2000
 WO200053219-A2
 Unidentified.
 placentation;
 wound healing; peptic ulcer; Helicobacter related disease; frac
keloid; vasculogenesis; hematopoiesis; ovulation; menstruation;
 arthritis; diabetic neovascularisation;
 arteriovenous malformation; corneal disease; rubeosis; necvascular glaucoma; diabetic retinopathy; retrolental fibroplasia;
 Immunogenic peptide; fibroblast growth factor; FGF; VEGF; cancer;
vascular endothelial growth factor; hyperproliferative disorder:
 15-JAN-2001
 AAB18548
 AAB18548 standard; peptide;
 Sequence
 hyperproliferative disorders, especially haemangioma, solid tumours, blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis, scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's
 AAB18542-51 represent immunogenic peptide fragments of fibroblast growth factor (FGF) and/or vascular endothelial growth factor (V
 Claim 13;
 Holaday
 10-MAR-2000;
 The peptides are used to produce immunogenic compositions. immunogenic composition is used for treating cancer or
 (ENTR-)
 (ENTR-) ENTREMED INC.
 16;
 JW,
 'n,
 ENTREMED
 Similarity
 CEESNITMQIMRIKPH 16
 CEESNITMQIMRIKPH
 16 AA;
 peptide
 Conservative
 2000WO-US06320
 Ruiz A,
 (first entry)
 Ruiz A,
 cat
 28; 95pp;
 99US-0266543
 scratch
 fragment derived from FGF and/or VEGF
 100.0%;
 Madsen
 Madsen J;
 English.
 16
 fever
 0
 26
 Score 86; DB 21; I
Pred. No. 2.2e-09;
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 macular degeneration
 Length 16,
 fracture;
 0
 ovulation,
 (VEGF).
 Gaps
 0
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AAW498C

AAW498C

AAW49X

AC AAW4

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 Matches
 Query Match
 Best Local
 growth factor (FGF) and/or vascular endothelial growth factor (VEGF) and/or vascular endothelial growth factor (VEGF). The peptides are used to produce immunogenic compositions. The immunogenic composition is used for treating cancer or hyperproliferative disorders, especially haemangloma, solid tumours, blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis, scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's disease, plaque neovascularisation, arteriovenous malformations, corneal diseases, rubeosis, neovascular glaucoma, diabetic retinopathy, retrolental fibroplasia, arthritis, diabetic neovascularisation, macular degeneration, wound healing, peptic ulcer, Helicobacter related diseases, fractures, keloids, vasculogenesis, hematonnicator menstruation, placentation and productions are menstruation, placentation are secured.
 An immunogenic composition useful for treating cancer or hyperproliferative disorders comprises an immunogenic peptide fragment of fibroblast growth factor and/or vascular endothelial growth factor
 Novel receptor-mediated gene transfer systems for targeting tumour gene therapy - by binding to growth factor receptor with their terminal exogenous DNA component, used to treat e.g. malignant tumour cells and tumour vascular endotheliocytes, and in gene
 Ligand oligopeptide; 4-membered complex; gene transfer system; tumour gene therapy; polycationic polypeptide; cancer; endosome-release oligopeptide; malignant tumour cell; tumour vascular endotheliocytes.
 Sequence
 WPI; 2000-594263/56.
 Claim 5;
 31-OCT-1996;
 27-OCT-1997;
 WO9818951-A1
 Synthetic
 Amino acid sequence of ligand oligopeptides.
 24-SEP-1998
 AAW49805
 Claim 13; Page 28; 95pp;
 WPI; 1998-272239/24
 (SHAN-) SHANGHAI
 12
 1 Similarity
15; Conserv
 N
 EESNITMQIMRIKPH 16
 Page
 standard;
 EESNITMQIMRIKPH
 26
 Conservative
 (first entry)
 A
A
 32;
 96CN-0116557.
 97WO-CN00106.
 CANCER INST
 67pp; Japanese
 peptide; 36
 89.5%;
 English.
 26
 0,
 Score 77;
Pred. No.
 Mismatches
 DB 21;
2e-07;
 0
 Indels
 - 0
 Gaps
 macular
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0

This is the amino acid sequence of ligand oligopeptide used in the

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RESULT 4
AAE32330
 Matches
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The invention relates to a fusion protein comprising non-heparin binding vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF peptide portion useful for promoting angiogenesis and/or bone growth in mammalian host. The fusion protein is useful for promoting angiogenesis, wound healing and bone growth. Compositions containing bone growth promoting fusion protein can be used to treat osteoporosis, rheumatoid or osteoarthritis, to improve poor bone healing, to promote implant integration and function of artificial joints and to facilitate bone reconstruction. They can also be used to treat e.g. ulcers, lesions, injuries, burns, trauma, periodontal conditions, lacerations and other conditions. The invention is also useful in protein therapy. The present sequence is human VEGF-A receptor binding domain.
 mammals
 method of the invention to create a 4-membered complex gene transfer system for targeting tumour gene therapy is formed from a 3-membered compound carrier of a ligand oligopeptide/polycationic polypeptide/endosome-release oligopeptide complex, and an exogenous DNA. The complexes are used for the treatment of cancer in the
 New fusion protein comprising a non-heparin-binding vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF peptide portion, useful for promoting angiogenesis and/or bone growth in
 WPI; 2003-075536/07
 10-APR-2002; 2002WO-US11406
 24-OCT-2002
 WO200283851-A2
 Homo sapiens.
 Vascular endothelial growth factor; VEGF; angiogenesis; wound healing; bone growth; osteoporosis; osteoarthritis; bone reconstruction; ulcer; lesion; injury; trauma; periodontal condition; protein therapy; human.
 Human VEGF-A receptor binding domain
 24-MAR-2003
 AAE32330;
 AAE32330 standard;
 Sequence
 form of malignant tumour cells and tumour vascular endotheliocytes, and in gene therapy.
 Disclosure; Page 118-119; 191pp; English
 Kovesdi
 10-APR-2001; 2001US-0832355
 (GENV-)
 Local Similarity
 15;
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 2 EESNITMQIMRIKPH 16
 Ħ,
 GENVEC INC
 36 AA;
 Kessler
 Conservative
 (first entry)
 Protein; 101
 89.5%; 500
100.0%; Pro
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 19
 Score 77;
Pred. No.
 B
 Mismatches
 DB 19;
3e-07;
 0
 Length 36;
 Indels
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 Gaps
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Query Match Best Local Similarity

89.5%;

Score 77; Pred. No.

DB 24; 9.8e-07;

Length 101;

RESULT 6

0

Sequence

101

A A

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RESULT 5
AAU08494
ID AAU0
XX AAU0
XX AAU0
XX VEGF
XX VEGF
XX VEGF
XX W Angi
KW Angi
KW DBon
XX WO2(
XX WO2(
XX WO2(
XX WO2(
XX Homa
XX Homa
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XX LUI
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PR 18
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 Matches
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 The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFs), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rhemmatoid
 Sequence
 proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGFs. The present sequence represents VEGFR-1 binding epitope from human
 growth
 25-FEB-2000;
18-MAY-2000;
 angiogenesis; blood vessel; cancer; proliferative retine psoriasis; age-related macular degeneration; rheumatoid
 Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy;
 21-NOV-2001
 AAU08484;
 AAU08484 standard; Peptide; 102 AA
 Example 4; Page 115; 261pp; English.
 Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them -
 WPI; 2001-536640/59
 Alitalo K,
 26-FEB-2001;
 30-AUG-2001
 Homo sapiens.
 cardiovascular;
 VEGFR-1 binding
 (LICN)
 (LUDW-)
 Toca1
 64
65
 15;
 N
 l Similarity
15; Conserv
 N
 LICENTIA OY.
 LUDWIG INST CANCER RES
 EESNITMQIMRIKPH 16
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EESNITMQIMRIKPH
 102 AA;
 Jeltsch MM
 Conservative
 Conservative
 2000US-0185205.
2000US-0205331.
 2001WO-US06113.
 (first entry)
 epitope from human VEGF-A.
 VEGFR-1.
 89.5%;
79
 78
 16
 Score 77; DB; Pred. No. 9.9
 0;
 0
 Mismatches
 DB 22; I
9.9e-07;
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 Length 102;
 Indels
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AAB53387

III AAB5

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AC AAB5

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CC CC CAB1

CC CC CCAC

CC CC CCC

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 RESULT 7
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 ş
 AAU08407
 Query Match
Best Local Similarity
Matches 15; Conserv
 AAC97991 to AAC98763 encode the human colon cancer associated proteins, called human colon cancer antigens, given in AAB53234 to AAB54006. The human colon cancer antigens given in AAB53234 to AAB54006. The human colon cancer antigens can have cytostatic, cardioactive, muscular; neuroprotective, immunomodulatory, gynaecological, gastrointestinal, vulnerary, nephrotropic, antiinfective and antibacterial activities, and can be used in gene therapy. The colon cancer antigen polynucleotides, proteins and antibodies to the proteins are useful for the prevention, treatment and diagnosis of colon disorders, such as colon cancer. The polynucleotides may be used in diagnostics and research, such as for chromosome identification, and as hybridisation probes. The proteins may also be used to prevent diseases such as neural disorders, immune system disorders, muscular disorders, reproductive disorders, intectious diseases, and cardiovascular disorders. AAC98764 b AAC98772 and
 AAU08407;
 Colon cancer associated gene sequences, referred to as colon cancer antigens, useful for the treatment, prevention, and diagnosis of codisorders such as colon cancer -
 AAU08407 standard; Protein; 105 AA
 Sequence
 neural disorder; immune system disorder; muscular disorder; reproductive disorder; gastrointestinal disorder; renal disorder; infectious disease; cardiovascular disorder.
 invention.
 diseases, and cardiovascular displaces. Among Teation of the present
 Claim 11; Page 1486; 2104pp; English.
 Rosen CA,
 12-MAR-1999;
 08-MAR-2000; 2000WO-US05883.
 21-SEP-2000
 WO200055351-A1
 identification; cytostatic; cardioactive; neuroprotective; vulnerary;
immunomodulatory; muscular; gynaecological; gastrointestinal;
nephrotropic; antiinfective; antibacterial; gene therapy; wound;
 Human; colon cancer; colon cancer antigen; diagnosis; detection; identification; cytostatic; cardioactive; neuroprotective; vulne
 Human colon cancer antigen protein sequence SEQ ID NO:927.
 09-MAR-2001
 AAB53387 standard; Protein; 105 AA
 (HUMA-) HUMAN GENOME SCI INC
 2000-587534/55.
DB; AAC98144.
 sapiens.
 2 EESNITMQIMRIKPH 16
 EESNITMQIMRIKPH 70
 Ruben SM;
 105
 Conservative
 (first entry)
 ₽,
 99US-0124270.
 89.5%; Score 77;
100.0%; Pred. No.
 <u>,</u>
 Mismatches
 DB 21;
1e-06;
 0
 Length 105;
 Indels
 0;
 of colon
 Gaps
 0:
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RESULT 8
AAU08411
ID AAU0
XX
AC AAU0
XX
AC AAU0
XX
DT 21-N
 밁
 8
 Matches
 Query Match
Best Local :
 and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGFs. The present sequence represents the polypeptide encoded by human VEGF-A/VEGF-C hybrid construct clone 12-1.
 Sequence
 receptors for vascular endothelial growth factors (VEGFs), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells the embryonic vasculature from early differentiating endothelial cells
 Key
Domain
 Homo sapiens.
Synthetic.
 AAU08411;
 AAU08411 standard;
 Polypeptides that bind cellular receptors for vascular endothelial {f growth} factors, polynucleotides encoding them -
 Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VEGF-C; mutant; mutein.
 The present invention relates to polypeptides that bind cellular
 Claim 35; Page 182; 261pp; English.
 Alitalo K,
 25-FEB-2000;
18-MAY-2000;
 26-FEB-2001; 2001WO-US06113.
 30-AUG-2001.
 WO200162942-A2.
 Polypeptide encoded by human
 21-NOV-2001
 (LICN)
 LUDW-) LUDWIG INST CANCER RES
 2001-536640/59.
 65
 15;
 N
 Similarity
 LICENTIA OY.
 EESNITMQIMRIKPH 16
 EESNITMQIMRIKPH
 105 AA;
 Jeltsch
 Conservative
 (first entry)
 2000US-0185205.
2000US-0205331.
 Location/Qualifiers
 /note= "VEGF receptor binding domain"
 Protein; 105
 3
 89.5%;
 0;
 Score 77;
Pred. No.
 VEGF-A/VEGF-C hybrid clone 12-1
 Mismatches
 DB 22;
1e-06;
 22;
 0
 Length 105;
 Indels
 0
 Gape
 0
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21-NOV-2001

(first entry)

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RESULT 9
AAU08471
ID AAU0
XX
AC AAU0
XC AAU0
XX
DT 21-N
XX
DE Poly
 밁
 S
 Best Loc
Matches
 Query Match
 The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFs), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique
 numen; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VEGF-C; mutant; mutein.
 Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them -
Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 53-3.
 21-NOV-2001
 AAU08471;
 AAU08471 standard; Protein; 105
 receptor binding profiles compared to known naturally occurring VEGFs. The present sequence represents the polypeptide encoded by human VEGF-A/VEGF-C hybrid construct clone 12-5.
 Claim 36; Page 186-187; 261pp; English.
 Alitalo K, Jeltsch MM
 25-FEB-2000;
18-MAY-2000;
 26-FEB-2001; 2001WO-US06113
 30-AUG-2001.
 WO200162942-A2
 Domain
 Key
 Synthetic
 Homo sapiens.
 Polypeptide encoded
 (LICN)
 Local
 2001-536640/59
 65
 N
 l Similarity
15; Conserv
 factors, polynucleotides encoding them
 LUDWIG INST CANCER RES
 AAS12848
 EESNITMQIMRIKPH 79
 EESNITMQIMRIKPH 16
 105
 Conservative 0;
 2000US-0185205.
2000US-0205331.
 (first entry)
 ₽
X
 Location/Qualifiers
1..102
 by human VEGF-A/VEGF-C
 89.5%;
 "VEGF receptor binding domain"
 %; Score 77; DB
%; Pred. No. 1e-
0; Mismatches
 ₿
 DB 22;
. 1e-06;
 hybrid clone 12-5
 <u>,</u>
 Length 105;
 Indels
 0
 Gaps
 0
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RESULT 10
AAU08472
ID AAU08
XX
AC AAU08
XX
DT 21-NC
DT 21-NC
XX
PolyF
XX
W angic
KW psori
KW psori
KW cardi
XX
 밁
 8
 CC The present invention relates to polypeptides that bind cellular CC receptors for vascular endothelial growth factors (VEGFs), the CC polynucleotides encoding them, and their use for identifying agents that CC modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculogenesis, the development of CC the embryonic vasculature from early differentiating endothelial cells CC and angiogenesis, the process of forming new blood vessels from CC pre-existing ones. Modulators of interactions between VEGF and its CC receptors may be used to treat dysfunction of the endothelial cell CC regulatory system. Such disorders include cancers, abnormal angiogenesis, CC proliferative retinopathies, age-related macular degeneration, rheumatoid CC arthritis and psoriasis. The polypeptides of the invention exhibit unique creeptor binding profiles compared to known naturally occurring VEGFs.

CC The present sequence represents the polypeptide encoded by human CC VEGF-A/VEGF-C hybrid construct clone 53-3.
 Query Match
Best Local S
Matches 15
 Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VEGF-C; mutant; mutein.
 Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VEGF-C; mutant; mutein.
 25-FEB-2000; 2000US-0185205.
18-MAY-2000; 2000US-0205331.
 Homo sapiens.
Synthetic.
 Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 82-7
 21-NOV-2001
 AAU084.72;
 AAU08472
 Sequence
 Claim 46; Page 253; 261pp; English.
 growth factors, polynucleotides encoding them
 Polypeptides that bind cellular receptors for vascular endothelial
 N-PSDB; AAS12890
 Alitalo
 30-AUG-2001
 WO200162942-A2
 (LUDW-) LUDWIG INST CANCER RES
 26-FEB-2001; 2001WO-US06113
 2001-536640/59.
 66
 15;
 N
 Similarity
 ζ,
 standard; Protein; 105
 EESNITMQIMRIKPH
 EESNITMQIMRIKPH 16
 105 AA;
 Jeltsch
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 89.5%;
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 Score 77;
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 Length 105
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 modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiogenesis, the process of interaction of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiogenesis, the process of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiogenesis, the process of the endothelial cell regulatory system.
 Human; vascular endothelial growth factor; VEGF 110; angiogenic factor; blood vessel injury; vascular injury; microvascular angiopathy; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; venom; hypercoagulable state; platelet activation; platelet aggregation; thrombosis; preclampsia; sepsis; pancreatis;
acute respiratory distress syndrome; pneumonia; pulmonary emboli; birth prematurity disorder; wound; allergy; hypersensitivity; autoimmune disease; organ transplant; focal glomerulosclerosis;
 Homo sapiens.
Synthetic.
 stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury;
 intravascular coagulation; thrombotic thrombocytopenia purpura;
acute renal failure; myocardial infarction; ischemic bowel disease;
 Amino
 03-JUL-2000
 AAY69417;
 AAY69417 standard; Protein; 110 AA.
 Sequence
 receptor binding profiles compared to known naturally occurring VEGFs. The present sequence represents the polypeptide encoded by human VEGF-A/VEGF-C hybrid construct clone 82-7.
 proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique
 The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFs), the polynucleotides encoding them, and their use for identifying agents
 Claim 47; Page 254-255; 261pp; English.
 Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them -
 Alitalo K, Jeltsch MM
 25-FEB-2000;
18-MAY-2000;
 26-FEB-2001; 2001WO-US06113
 WO200162942-A2
 (LUDW-) LUDWIG INST CANCER RES
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 acid
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 LICENTIA OY
 Similarity
 EESNITMQIMRIKPH 16
 105
 Conservative
 (first entry)
 2000US-0185205.
2000US-0205331.
 ĄĄ,
 of vascular endothelial growth factor 110
 100.0%;
 89.5%;
 0;
 Score 77;
; Pred. No.
 Mismatches
 DB 22;
1e-06;
 <u>,</u>
 Length 105
 Indels
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The present sequence represents native human vascular endothelial growth CC factor (VEGF) 110. VEGF is an angiogenic factor. VEGF proteins are used CC for the prevention or repair of injury to blood vessels or associated CC nonvascular tissues (served by the blood vessels) and for the prevention CC and repair of vascular injury associated with microvascular angiopathy. CC particularly thrombotic microangiopathy. The proteins methods may also be used for the prevention and treatment of kidney diseases associated CC with injury to, or atrophy of, the vasculature of the glomerulus and CC interstitium. Conditions which may be treated include haemolytic uremic syndrome, toxic shock syndrome, venom exposure, chemical exposure, CC syndrome, toxic shock syndrome, treated include haemolytic uremic contravascular coagulation, sethenic bowel disease, acute renal failure, CC intravascular coagulation, sechenic bowel disease, transient ischemic CC attacks, stroke, hypoxia or hypercapnia or fibrosis arising from lung CC endothelium injury, acute respiratory distress syndrome, toxic alveolar cinjury, pneumonia, pulmonary emboli, birth prematurity disorders, CC wounds, allergic reactions, hypersensitivity, autoimmune diseases, organ CC transplants, focal glomerulosclerosis, and amyloidosis.
Sequence
 Novel methods and compositions for the prevention and treatment microvascular angiopathies by administration of angiogenic facto as vascular endothelial growth factor (VEGF)
 Disclosure; Fig 12; 46pp; English
 Schreiner GF,
 09-SEP-1998;
26-MAR-1999;
 09-SEP-1999;
 WO200013702-A2
 (SCIO-) SCIOS
 27-MAR-1999;
 16-MAR-2000.
110 AA;
 98US-0099694.
99US-0126406.
99US-0126615.
 99WO-US20480
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 Matches
 Query Match
Best Local
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 Similarity
EESNITMQIMRIKPH 16
 Conservative
 89.5%; Score 77; 100.0%; Pred. No.
 0,
 Mismatches
 1.1e-06;
 DB 21;
 <u>.</u>
 Length 110;
 Indels
 0,
 Gaps
 0,
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RESULT 12 AAY83038 ID AAY83

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72

EESNITMQIMRIKPH

86

AAY83038 standard; Protein; 110 AJ

XX
AC AAY83038
XX
DT 04-JUL-2;
XX
XX
DE Human vai
XX
Vascular
KW vascular
KW capillar;
KW meningit;
KW mypoxia;
KW hypoxia;
KW diarrhoe;
XX

T 04-JUL-2000 (first entry)

. Human vascular endothelial growth factor (hVEGF110).

Vascular endothelial growth factor; human; angiogenesis; VGEF; capillary formation; hypertension; treatment; kidney; CNS; stroke; meningitis; central nervous system; tumour; infection; bone growth; hypoxia; hypercapnia; fibrosis; inflammatory bowel disease; hypoxia; allografts; cardiac valve.

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RESULT 13
AAG79276
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 XXXXXXX
 Administering vascular endothelial growth factor (VGEF) can be used CC for treating hypertension (especially salt-dependent hypertension) CC Administration of VGEF promotes angiogenesis and/or vascular or CC capillary permeability. The method is also useful in treating CC disorders related to abnormal transport of solutes across endothelial CC cells. Such disorders include the treatment or prevention of kidney CC disease associated with impaired filtration or excretion of solutes; CC meningitis, tumour, infections, and bone growth disorders treatment or prevention of hypoxia or hypercapnia or fibrosis arising from CC accumulation of fluid secretions, and bone growth disorders treatment or prevention of fluid secretions in the lungs, e.g. acute respiratory CC distress syndrome, cystic fibrosis; treatment or prevention of cumulation including disorders arising from phenonary dysfunction arising from injury to the pulmonary conditions of common prevention of common prevention of disease arising from disordered transport of fluid and solutes across the intestinal common prevention of ascites accumulation in the peritoneum; enhancement or prevention of solute flux; preservation or enhancement of function of cefficacy of solute flux; preservation or enhancement of function of factor hyderion. The activity of VGEF as mediated by interaction conditions and treatment or traget tissues, most notably the vascular endothelium. VGEF exists as five different length monomer chains due to alternative splicing of the VGEF RNA transcript.
 Query Match
Best Local
 Matches
Kinase domain receptor; KDR; vascular endothelial growth factor; VEGF;
 Primary sequence of vascular endothelial growth factor (VEGF).
 03-JAN-2002
 AAG79276;
 AAG79276 standard;
 Sequence
 Disclosure; Figure 11; 51pp; English.
 Novel methods for treating hypertension by administering a factor which increases angiogenesis and/or vascular permeability
 Schreiner GF,
 27-MAR-1999;
 09-SEP-1998;
26-MAR-1999;
 09-SEP-1999;
 WO200013703-A2
 Homo sapiens
 16-MAR-2000.
 (SCIO-) SCIOS
 72
 N
 15;
 Similarity
 EESNITMQIMRIKPH 16
 EESNITMQIMRIKPH
 110 AA;
 Conservative (
 (first entry)
 INC.
 98US-0099694.
99US-0126406.
99US-0126615.
 Johnson
 99WO-US20481
 peptide; 110
 89.5%;
 짇
 86
 Score 77;
; Pred. No.
 0;
 Mismatches
 1.1e-06;
 DB 21;
 Length 110;
 Indels
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 Gaps
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18-MAY-2000; 2000WO-US13536.

30-NOV-2000.

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Best Loc
Matches
 Query Match
 The present sequence represents vascular endothelial growth factor (VEGF). The specification describes peptides which bind to an anti-VEGF antibody or which bind to a kinase domain receptor (KDR). The peptides inhibit the binding of VEGF to KDR, and inhibit binding of anti-VEGF antibody to VEGF. The peptides are useful for inhibiting angiogenesis and for treating diseases including cancer, diabetic
 cardiant; cerebroprotective; hypotensive; nephrotropic; antidiabetic; dermatological; immunosuppressive; antiinflammatory; cytostatic; vascotropic; antibacterial; angiogenesis; vascular remodelling; vascular disease; kidney disease; diabetes; systemic lupus erythematosus; meningitis; tumour; infection; lung disease inflammatory bowel disease.
 (INSP)
(CNRS)
(UYPA-)
 Sequence
 Novel peptides inhibiting binding of vascular endothelial growth (VEGF) to kinase domain receptor, or inhibiting binding of anti-vantibody to VEGF, useful for treating diabetic retinopathy and
 Human; VEGF; vascular endothelial growth factor; VEGF121; VEGF145;
 Human VEGF110.
 13-MAR-2001
 retinopathy, psoriasis, hemangioblastoma, and Kaposi's sarcoma
 Example; Page 21; 55pp; English
 31-MAR-2000; 2000US-193396P
 04-OCT-2001
 VEGF antibody; angiogenesis; cancer; diabetic retinopathy; psoriasis; hemangioblastoma; Kaposi's sarcoma
 Homo sapiens.
 AAB50436 standard; Protein;
 psoriasis
 WPI; 2001-616471/71
 Vassy
 Tournaire R,
 29-MAR-2001; 2001WO-IB00577
 WO200172829-A2
 POCAT
 72
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 Similarity
 EESNITMQIMRIKPH
 EESNITMQIMRIKPH
 110 AA;
 PASTEUR.
CENT NAT
PARIS 13
 Conservative
 (first entry)
 Demangel C,
 89.5%;
 NORD
 RECH SCI
 98
 16
 Derbin C,
 0
 Score 77;
; Pred. No.
 Mismatches
 Perret G,
 1.1e-06;
hes 0;
 DB 22;
 Length 110;
 Mazie J,
 Indels
 growth factor anti-VEGF
 Plouet J;
 <u>.</u>
 Gaps
 0
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20-MAY-1999;

99US-0135312

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밁
 S
 cc enhancing the biological activity of a vascular endothelial growth factor (VEGF) originally having a cysteine residue at a position 116 of the 121 cc amino acid native mature human VEGF. The method comprises eliminating the cysteine residue to produce a VEGF variant. The variant is useful for conducing angiogenesis or vascular remodelling, for prevention or repair cof injury to blood vessels, where injury is associated with haemolytic cmicroangiopathy (TMA). The VEGF variant is also useful for treatment of cessential hypertension in a patient. The variant is useful for treatment of coronary artery disease and/or peripheral arterial disease, to foster myocardial blood vessel growth and to improve blood flow to the heart. It is useful for the treatment and prevention of kidney diseases associated compocardial infarction, ischaemic bowel disease, transient ischaemic convertitium and for the treatment and prevention of acute renal failure, captures, stroke, hypoxia, hypercapnia, focal glomerulosclerosis, captured or finerulonophritis, diabetes, systemic lupus erythematosus or chronic hypoxia/atrophy. It is also useful in the preservation or cenhancement of function of organ allografts and xenografts, and for treating disorders related to abnormal transport of solutes across cendothelial cells such as meningitis, tumour, infections, disorders of condothelial cells such as meningitis, tumour, infections, disorders of cendothelial cells such as meningitis, tumour, infections, disorders of cendothelial cells such as meningitis, tumour, infections, disorders of cendothelial cells capture remairs and cendothelial cells such as meningitis, tumour, infections, disorders of cendothelial cells across cendothelial cells across cendothelial cells across cendothelial cells cendothelial cells across cendothelial cells cendothelial cells across cendothelial cells cendotheli
 Matches
 Best Local
 Query Match
 Homo sapiens
 angiogenic factor.
 antidiarrhoeic;
 hypertension; hypotensive; nephrotropic; cerebroprotective; antibacterial; cytostatic; antialcholic; virucide; vasotro
 Vascular endothelial growth factor; VEGF; hVEGF110; human;
 12-AUG-2002
 ABB76304 standard; Protein; 110 AA
 Sequence
 The present sequence is given in a specification relating to a method enhancing the biological activity of a vascular endothelial growth fac
 Disclosure; Fig 12; 62pp; English.
 Enhancing biological activity of vascular endothelial growth factor by replacing a Cys residue, for producing variant useful for treating hypertension, stroke, diabetes, lupus, glomerulonephritis, meningitis, tumor, pneumonia, infections -
 WPI; 2001-025162/03
 growth, acute respiratory dist
monia, cystic fibrosis, inflamn
rhoea or cardiac valve disease.
 vascular
 72
 N
 Similarity
 SCIOS INC.
 EESNITMQIMRIKPH 86
 EESNITMQIMRIKPH 16
 110 AA;
 Conservative
 (first entry)
 endothelial growth factor 110
 immunosuppressive;
 100.0%;
 89.5%;
 0
 Score 77;
; Pred. No.
 inflammatory bowel disease, infectious
 distress syndrome, toxic alveolar injury,
 Mismatches
 1.1e-06;
 DB 22;
 Length 110;
 Indels
 0
 Gaps
 0
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05-MAR-2002

US6352975-B1

Search completed: January 30, 2004, 11:40:08 Job time : 22.0327 secs

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72

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 Matches
 Query Match
Best Local
 syndrome, toxic alveolar injury as occurs in smoke inhalation, pneumonia including viral and bacterial infections, surgical interventions, cystic fibrosis, and other inherited or acquired disease of the lung associated with fluid accumulation in the pulmonary air space, pulmonary endothelium injury, disordered transport of fluid and solutes across the intestinal epithelium, including inflammatory bowel disease, infections, diarrhoea, ascites accumulation in the peritoneum as occurs in the failure of heart, liver and kidney, preservation and enhancement of function of organ allografts, and cardiac valve disease.
 by administering a VEGF in an amount effective to reduce the blood pressure of a salt-sensitive hypertension patient to a normal range. The VEGF is preferably hVEGF121 (see ABB76299) or a VEGF that has had its heparin-binding domain modified to render it incapable of binding heparin, e.g. by amino acid alteration. VEGF101 is not one of the preferred VEGF molecules. The method can also be used to treat disorders relating to abnormal transport of solutes across endothelial cells, including treatment or prevention of kidney disease associated with impaired filtration or excretion of kidney disease associated with impaired filtration or excretion
 of solutes, central nervous system diseases associated with alterations in cerebrospinal fluid synthesis, composition or circulation including stroke, meningitis, tumour, infections, disorders of bone growth, hypoxia or hypercapnia or fibrosis arising from accumulation of fluid secretions in lungs or
 The present sequence is the protein sequence of human vascular endothelial growth factor 110 (hVEGF110). The present invention concerns methods for the treatment of salt-sensitive hypertension
 Sequence
 Disclosure;
 New method, useful in tre
 Schreiner GF,
 27-MAR-1999;
 09-SEP-1998;
26-MAR-1999;
 09-SEP-1999;
 impediments to their removal, including acute respiratory distress
 (SCIO-) SCIOS
 15;
 N
 Similarity
EESNITMQIMRIKPH
 110 AA;
 Fig 11; 30pp; English
 Conservative
 INC.
 98US-099694P.
99US-126406P.
99US-126615P.
 Johnson
 99US-0392932.
 89.5%; Score 77; DB 23; 100.0%; Pred. No. 1.1e-06;
 treatment of salt-sensitive hypertension,
ion of a vascular endothelial growth factor to
 망
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 Mismatches
 <u>,</u>
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5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*
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US-09-037-983C-16

US-09-519-476-2

US-08-784-551C-2

US-09-392-932-2

US-09-574-708A-4

US-09-037-983C-2

US-09-037-992B-1

US-08-706-054A-4

US-09-313-292-1

US-09-313-292-4

US-09-313-888-3

US-09-313-293-4

US-09-313-293-4

US-09-313-293-4

US-09-313-293-4

US-09-313-293-4

US-09-313-293-4

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US-08-802-052B-3
 US-09-092-000-4

US-08-691-794-3

US-09-392-932-11

US-09-574-708A-11

US-09-822-270-17
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 SUMMARIES
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Sequence 1, Appli
Sequence 11, Appl
Sequence 11, Appl
Sequence 17, Appl
Sequence 17, Appl
Patent No. 5194596
Patent No. 5219739
 Sequence 4, Appli
Sequence 24, Appli
Sequence 3, Appli
Sequence 3, Appli
Sequence 3, Appli
Patent No. 5194596
Patent No. 5219739
 Description
 Sequence
Sequence
Sequence
Sequence
Sequence
 Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
 15, Appl
17, Appl
16, Appli
2, Appli
2, Appli
2, Appli
4, Appli
1, Appli
1, Appli
1, Appli
4, Appli
1, Appli
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Result No.

## ALIGNMENTS

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SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 4
LENGTH: 36
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
 RESULT 2
US-08-691-794-3
 US-09-092-000-4
 RESULT 1
US-09-092-000-4
 Sequence 3, Application Patent No. 6057428
GENERAL INFORMATION:
 Sequence 4, Application Patent No. 6339139 GENERAL INFORMATION:
 Query Match
Best Local (
 Matches
 APPLICANT: Gu, Jian-ren
APPLICANT: Tian, Peikun
TITLE OF INVENTION: Receptor-Mediated Gene Transfer System for Targeting
TITLE OF INVENTION: Tumor Gene Therapy
FILE REFERENCE: Gu
CURRENT FILLING DATE: 1998-08-26
EARLIER APPLICATION NUMBER: 96 116557.X
EARLIER FILLING DATE: 1996-10-31
EARLIER FILLING DATE: 1996-10-31
EARLIER FILLING DATE: 1997-10-27
NUMBER: OF SEQ ID NOS: 5
APPLICANT: Keyt, Bruce A.
APPLICANT: Nguyen, Francis H.
APPLICANT: Perrara, Napoleone
APPLICANT: Cunningham, Brian C.
APPLICANT: Wells, James A.
APPLICANT: Li, Bing
TITLE OF INVENTION: Growth Factor
TITLE OF INVENTION: Production
 OTHER INFORMATION:
OTHER INFORMATION:
 Local
 15;
 ហ
 2 EESNITMQIMRIKPH 16
 Similarity
 EESŅITMQIMRIKPH
 Application US/08691794
 Conservative
 Description of Artificial Sequence: Ligand oligopeptide for the receptor region of VEGF
 Variants of Vascular Endothelial Cell Growth Factor, Their Uses, and Processes Production
 89.5%; Score 77;
100.0%; Pred. No.
 US/09092000
 19
 0;
 Mismatches
 DB 4; Lo
 Length 36
 region
 0
 for
 Gaps
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RESULT 3
US-09-392-932-11
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; TYPE: PRT
; ORGANISM: Homo Sapiens
US-09-392-932-11
 US-08-691-794-3
 TELEFAX: (415) 398-3249
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 109 amino acids
 SEQ ID NO 11
 GENERAL INFORMATION:
 Sequence 11,
 Matches
 Query Match
 APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
FILE REFERENCE: SCIOS.002A
CURRENT APPLICATION NUMBER: US/09/392,932
CURRENT APPLICATION NUMBER: US/09/392,932
EARLIER APPLICATION NUMBER: 60/099,694
EARLIER FILING DATE: 1998-09-09
 Patent No.
 PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/002,827
FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/567,200
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
 SOFTWARE: FastSEQ for Windows Version 4.0
 NUMBER OF SEQ ID NOS: 11
 ENGTH: 110
 MOLECULE TYPE:
 NAME: Dreger, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-I
TELECOMMUNICATION INFORMATION:
 SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
 COMPUTER READABLE FORM:
 STREET: FOUL CITY: San Francisco
 TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
 APPLICATION NUMBER: US/08/691,794
FILING DATE: 02-AUG-1996
 Local
 TOPOLOGY:
 STRANDEDNESS:
 CLASSIFICATION:
 OPERATING SYSTEM:
 MEDIUM TYPE:
 COUNTRY:
 ADDRESSEE:
 72
 1 Similarity
15; Conserva
 2 EESNITMQIMRIKPH 16
 6352975
 amino acid
 EESNITMQIMRIKPH 86
 Application US/09392932
 E: Flehr, Hohbach, Test, Albritton & Herbert Four Embarcadero Center, Suite 3400
 United States
 Conservative
 unknown
 E: Floppy disk
IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
 protein
 unknown
 89.5%; out
100.0%; Pred. No.
tive 0; Mismatches
 A-63758/WHD
 DB 3;
 1.2e-07
 0; Indels
 Length 109;
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 Gaps
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0;

Query Match Best Local Similarity

89.5%; 100.0%;

Score 77; ; Pred. No.

DB 4; Length 110; 1.3e-07;

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FEATURE:
, OTHER INFORMATION: SYNTHETIC PEPTIDE
US-09-822-270-17
 밁
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 RESULT 5
US-09-822-270-17
 ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-574-708A-11
 RESULT 4
US-09-574-708A-11
 CURRENT APPLICATION NUMBER: US/09/822,270
CURRENT FILING DATE: 2001-04-02
PRIOR APPLICATION NUMBER: US 60/193,396
PRIOR FILING DATE: 2000-03-31
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 17
 Matches
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 Query Match
Best Local Similarity
 SEQ ID NO 11
 Sequence 11, Application US/09574708A Patent No. 6475796
 Matches
 Query Match
 GENERAL INFORMATION:
 Sequence 17,
 GENERAL INFORMATION:
 Patent No.
 CURRENT APPLICATION NUMBER: US/09/574,708A CURRENT FILING DATE: 2000-05-18 PRIOR APPLICATION NUMBER: US 60/135,312 PRIOR FILING DATE: 1999-05-20
 APPLICANT: TOURNAIRE, ROSELYNE APPLICANT: DEMANGEL, CAROLINE APPLICANT: DERBIN, CLAUDE
 NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSEQ for Windows Version 4.0
 APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth factor
TITLE OF INVENTION: variants
 TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MEDIE: TITLE OF INVENTION: ANGIOGENESIS, POLYNUCLEOTIDES ENCODING SAID PEPTIDES AND METHODS
 FILE REFERENCE: 205060US0
 FILE REFERENCE:
 LENGTH: 110
TYPE: PRT
ORGANISM: ARTIFICIAL SEQUENCE
 APPLICANT:
 APPLICANT:
 APPLICANT:
 APPLICANT:
 LENGTH: 110
 Local Similarity
es 15; Conserv
 72 EESNITMQIMRIKPH 86
 15;
 72
 15;
 2 EESNITMQIMRIKPH 16
2 EESNITMQIMRIKPH 16
 2 BESNITMQIMRIKPH 16
 6559
 BESNITMQIMRIKPH
 VASSAY, ROGER
 PERRET, GERARD
MAZIE, JEAN-CLAUDE
PLOUET, JEAN
 Application US/09822270
 Conservative
 Conservative
 Conservative
 SCIOS004A
 89.5%; Score 77;
100.0%; Pred. No.
 89.5%; Score 77; DB 4; 1 100.0%; Pred. No. 1.3e-07
 86
 0
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 Mismatches
 Mismatches
 Mismatches
 DB 4;
 1.3e-07
 0,
 Length 110;
 Length 110
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 Gaps
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EESNITMQIMRIKPH

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RESULT 7
5219739-20
;Patent No.
 S194596-19
;Patent No. 5194596
; APPLICANT: TISCHER,
 US-09-037-983C-15
 RESULT 8
 片
 S
 JOHN C., MITCHELL, RICHARD L.

PITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND HUMAN HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:
 8
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 5219739-20
 5194596-19
 GROWTH FACTOR

NUMBER OF SEQUENCES: 32

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/450,883

FILING DATE: 14-DEC-1989

PRIOR APPLICATION DATA:
 SEQ ID NO:20:
 FILING DATE:
SEQ ID NO:19:
 C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
 Patent No. 6502.
Patent No. 6502.
Patent No. 6502.
Patent No. 6502.
 Sequence 15, Application US/09037983C
 Matches
 Query Match
 Matches
 Query Match
 Best Local Similarity
APPLICANT: Vlodavsky, Israel
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Anglogenic Factor and Use Thereof in Treating Cardiovascular Disd
FILE REFERENCE: 000074-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT APPLICATION NUMBER: US/09/037,983C
 APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, I
 APPLICANT:
 APPLICATION NUMBER: US/(FILING DATE: 27-JUL-1990 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
 Local
 LENGTH: 121
 LENGTH: 121
 APPLICATION NUMBER: 387,545
 72
 72
 15;
 5219739
 15;
 Similarity
 EESNITMQIMRIKPH 16
 EESNITMQIMRIKPH 16
 EESNITMQIMRIKPH 86
 TISCHER,
 Conservative
 Conservative
 27-JUL-1989
 EDMUND G.; ABRAHAM, JUDITH A.; FIDDES
 EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
 89.5%; Score 77;
100.0%; Pred. No.
Live 0; Mismatc
 89.5%; Score 77;
100.0%; Pred. No.
 US/07/559,041
 86
 0;
 Mismatches
 BVEGF120 AND HVEGF121
 DB 6;
 DB 6;
 1.4e-07;
 1.4e-07
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 Length 121;
 Indels
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 Gaps
 Gaps
 0;
 0
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; LENGTH: 137
'; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-037-983C-17
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; ORGANISM: Homo sapiens
US-09-037-983C-16
 US-09-037-983C-16
 RESULT 10
 US-09-037-983C-17
 ; ORGANISM: Homo sapiens US-09-037-983C-15
 SOFTWARE: PatentIn version 3.1 SEQ ID NO 16
 Sequence 16, Application US/09037983C Patent No. 6583276
 SOFTWARE: PatentIn version 3.1 SEQ ID NO 17
 Matches
 Matches
 Query Match
Best Local Similarity
 Query Match
Best Local Similarity
 SEQ ID NO 15
 GENERAL INFORMATION:
 Patent No. 6583
 APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, Isra
APPLICANT: Poltorak, Zoya
 TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Dise FILE REFERENCE: 000274-00009 CURRENT APPLICATION NUMBER: US/09/037,983C CURRENT FILING DATE: 1998-03-11 PRIOR APPLICATION NUMBER: 60/025,537
 NUMBER OF SEQ ID NOS: 17
 PRIOR APPLICATION NUMBER: 60/025,537 PRIOR FILING DATE: 1996-09-06
 CURRENT APPLICATION NUMBER: US/09/037,983C CURRENT FILING DATE: 1998-03-11
 TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Dise
FILE REFERENCE: 000274-00009
 PRIOR APPLICATION NUMBER: 60/025,537 PRIOR FILING DATE: 1996-09-06
 NUMBER OF SEQ ID NOS: 17
 PRIOR FILING DATE:
 APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
 NUMBER OF SEQ ID NOS:
SOFTWARE: PatentIn ve
 APPLICANT:
 APPLICANT:
 TYPE: PRT
 LENGTH:
 ENGTH:
 INFORMATION:
 72
 72 EESNITMQIMRIKPH 86
 15;
 2 EESNITMQIMRIKPH 16
 138
 15;
 EESNITMQIMRIKPH 16
 EESNITMQIMRIKPH 86
 Poltorak,
 Vlodavsky,
 Application US/09037983C
 Conservative
 Conservative
 1996-09-06
 Zoya
 100.0%;
 89.5%;
 Israel
 Israel
 89.5%;
 <u>,</u>
 <u>,</u>
 Score 77;
Pred. No.
 Score 77;
Pred. No.
 Mismatches
 DB 4;
 1.6e-07;
 DB 4;
 .6e-07
 Length 137;
 Length 136;
 Indels
 Indels
 <u>,</u>
 0,
 Gaps
 Gaps
 0
 0
```

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US-08-784-551C-2
 밁
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-519-476-2
 US-09-519-476-2
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 RESULT 12
 RESULT 11
 Best Loc
Matches
 Sequence 2, Application US/09519476
Patent No. 6506884
GENERAL INFORMATION:
APPLICANT: MINTZ, List et al.
TITLE OF INVENTION: NOVEL NUCLEIC ACID AND AMINO ACID SEQUENCES
FILE REFERENCE: 2786-01499
CURRENT APPLICATION NUMBER: US/09/519,476
CURRENT APPLICATION NUMBER: US/09/519,476
CURRENT FILING DATE: 2000-03-09
PRIOR APPLICATION NUMBER: IL128852
PRIOR FILING DATE: 1999-03-05
 Sequence 2, Application US/08784551C Patent No. 6013780
 SOFTWARE:
SEQ ID NO 2
 Query Match
Best Local Similarity
 Query Match
 GENERAL INFORMATION:
 NUMBER OF SEQ ID NOS: 2
 COMPUTER: IBM Compatible
OPERATING SYSTEM: IBM P.C. DOS 5.0
SOFTWARE: FastSEQ for Windows 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/784,551C
FILING DATE: January 21, 1997
 COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette,
MEDIUM TYPE: storage
 CORRESPONDENCE ADDRESS:
ADDRESSEE: Blank, Rome, Comis
STREET: 900 17th Street, N.W.
 CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
ATTORNEY/AGENT INFORMATION:
 NUMBER OF SEQUENCES:
 APPLICANT: ISrae.

Zoya Poltorak

ANGIO

ANGIO
 APPLICANT:
 APPLICANT:
 Local Similarity
 TLE OF INVENTION:
 COUNTRY:
 STREET:
 72
 20006
 15;
 15;
 Washington, D.C.
 PatentIn version 3.0
 EESNITMQIMRIKPH 112
 EESNITMQIMRIKPH 16
 EESNITMQIMRIKPH 16
 N/A
 EESNITMQIMRIKPH 86
 Suite 1000
 U.S.A.
 Gera Neufeld
Eli Keshet
Israel Vlodavsky
 Conservative
 Conservative
 ANGIOGENIC FACTOR AND USE THEREOF IN TREATING CARDIOVASCULAR DISEASE 9
 89.5%;
 89.5%; Score 77;
100.0%; Pred. No
Live 0; Mismato
 Comisky & McCauley LLP
 Score 77; pred. No
 0,
 1.44 Mb
 Mismatches
 Mismatches
 No.
 DB 4;
 DB 4;
 1.7e-07;
 1.7e-07
 0
 ,.
 Length 141;
 Length 138;
 Indels
 0;
 0;
 Gaps
 Gaps
 0
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 ; ORGANISM: Homo Sapiens
US-09-392-932-2
 ક
 US-08-784-551C-2
 US-09-574-708A-4
 US-09-392-932-2
 GENERAL INFORMATION:
APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth
TITLE OF INVENTION: Variants
FILE REFERENCE: SCIOSO04A
 SEQ ID NO 2
 Sequence 2, Appli
Patent No. 635297
 Matches
 GENERAL INFORMATION:
 Matches
SOFTWARE:
SEQ ID NO 4
 Sequence 4, Applic Patent No. 6475796
 Best Local Similarity 100.0%;
 Query Match
 Query Match
 CURRENT APPLICATION NUMBER: US/09/574,708A CURRENT FILING DATE: 2000-05-18 PRIOR APPLICATION NUMBER: US 60/135,312 PRIOR FILING DATE: 1999-05-20 PRIOR FILING DATE: 1999-05-20 NUMBER OF SEQ ID NOS: 11
 EARLIER APPLICATION NUMBER: 60/099,694
EARLIER FILING DATE: 1998-09-09
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSEQ for Windows Version 4.0
 APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
FILE REFERENCE: SCIOS.002A
CURRENT APPLICATION UNMBER: US/09/392,932
CURRENT FILING DATE: 1999-09-09
 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
 LENGTH: 145
TYPE: PRT
 NAME: Cohen, Herbert
REGISTRATION NUMBER: 25,109
REFERENCE/DOCKET NUMBER: 02
TELECONMUNICATION INFORMATION:
TELEPHONE: (202) 463-7700
 Local Similarity
nes 15; Conserv
 TYPE: amino acid
STRANDEDNESS: sil
 TELEFAX:
 TOPOLOGY:
 ENGTH:
 72
 72
 15;
 2 EESNITMQIMRIKPH 16
 FastSEQ for Windows Version 4.0
 BESNITMQIMRIKPH 16
 BESNITMQIMRIKPH
 EESNITMQIMRIKPH 86
 Application US/09574708A
 Application US/09392932
 145 amino acids
 (202) 463-6915
 Conservative
 Conservative
 linear
 single
 100.0%; **
 89.5%;
 86
 ν.
 Score 77;
Pred. No.
 <u>,</u>
 Score 77; DB 4;
 0274.005/P003
 Pred. No.
 Mismatches
 Mismatches
 DB 3; I
 1.8e-07;
 Length 145;
 Length 145;
 Indels
 <u>,</u>
 0
 Gaps
 0
 0
```

```
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Dise
FILE REFERENCE: 000274-0009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
SOFTWARE: Patentin version 3.1
SEQ ID NO 2
LENGTH: 145
TYPE: PRT
ORGANISM: Homo sapiens
US-09-037-983C-2
Search completed: January 30, 2004, 11:47:52 Job time: 6.81026 secs
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 ; TYPE: PRT ; ORGANISM: Homo sapiens . US-09-574-708A-4
 RESULT 15
US-09-037-983C-2
 Query Match 89.5%; Score 77; DB 4; L
Best Local Similarity 100.0%; Pred. No. 1.8e-07;
Matches 15; Conservative 0; Mismatches 0;
 Query Match 89.5%; Score 77; DB 4; Length 145; Best Local Similarity 100.0%; Pred. No. 1.8e-07; Matches 15; Conservative 0; Mismatches 0; Indels
 Sequence 2, Application US/09037983C Patent No. 6583276
 GENERAL INFORMATION:
 APPLICANT: Newfeld, Gera APPLICANT: Keshet, Eli
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||||||||||||||||
72 EESNITMQIMRIKPH 86
 72 EESNITMQIMRIKPH 86
 2 EESNITMQIMRIKPH 16
 0; Indels
 Length 145;
 0;
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 Gaps
 Gaps
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|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------|---------|--------------|-----------------------------------------|--------------------------------------------|-----|
| <u></u>                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |      |         |              |                                         |                                            |     |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |      |         |              |                                         |                                            |     |
| 3                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |      |         |              |                                         |                                            |     |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |      | •       |              |                                         |                                            |     |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | . «          |      |         |              |                                         |                                            |     |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |      |         |              |                                         |                                            |     |
|                                        | •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              | *    |         |              | `                                       |                                            |     |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              | 10 E |         |              |                                         |                                            |     |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |      |         |              |                                         |                                            |     |
| ,                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |      |         |              |                                         |                                            |     |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |      |         |              |                                         |                                            |     |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |      |         | •            |                                         |                                            |     |
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|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |      |         | •            |                                         |                                            |     |
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|                                        | $\mathbf{A}_{\mathcal{C}_{1}}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3 1          |      | × " × - |              |                                         |                                            |     |
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Result
No.
 Database
 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
 Total number
 Scoring table:
 Perfect score:
 OM protein - protein search, using sw model
 Maximum
 Minimum
 Title:
 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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 Score
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 of hits satisfying chosen parameters:
 Published Applications AA:*

1: /cgn2 6/ptodata/2/pubpaa/US07 Pt

2: /cgn2-6/ptodata/2/pubpaa/US06 NE

3: /cgn2 6/ptodata/2/pubpaa/US06 NE

4: /cgn2-6/ptodata/2/pubpaa/US06 Pt

5: /cgn2-6/ptodata/2/pubpaa/US08 NE

6: /cgn2-6/ptodata/2/pubpaa/US08 NE

7: /cgn2-6/ptodata/2/pubpaa/US08 NE

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 4 US-10-139-876-13
4 US-10-086-623-14
5 US-10-260-539-14
1 US-09-832-355A-2
9 US-09-925-299-927
9 US-09-795-006A-51
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10 US-09-795-006A-163
11 US-09-795-006A-163
11 US-09-795-006A-163
11 US-09-795-270-17
12 US-10-342-371-17
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 US-10-392-931-10
US-10-392-931-11
 SUMMARIES
Sequence 13, Appl
Sequence 14, Appl
Sequence 2, Appli
Sequence 27, Appl
Sequence 51, Appl
Sequence 51, Appl
Sequence 161, Appl
Sequence 163, Appl
Sequence 17, Appl
Sequence 17, Appl
Sequence 17, Appl
Sequence 10, Appl
Sequence 10, Appl
Sequence 11, Appl
Sequence 11, Appl
Sequence 10, Appl
Sequence 11, Appl
 Description
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| 45      | 44              | 43          | 42              | 41        | 40          | 39          | 38            | 37         | 36           | 35       | 34         | <b>ω</b>     | 32              | 31          | 30           |              | 28      |                | 26          |                |                 | 23            |                |                |           |              |               | 17        |             |
|---------|-----------------|-------------|-----------------|-----------|-------------|-------------|---------------|------------|--------------|----------|------------|--------------|-----------------|-------------|--------------|--------------|---------|----------------|-------------|----------------|-----------------|---------------|----------------|----------------|-----------|--------------|---------------|-----------|-------------|
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| 89.5    | 9               | 9           |                 | 9.        | 9.          | 9           | 9             | 9          | 9            | 9        | ۰.         | 9.           | 9               | 89.5        | ۰            | ۰            | 9.      | 9              | ٩.          | ۰              | ۰               | 9.            | ۰              | 9              | ٩.        | ۰            | ٩.            | 9         | 9           |
| 165     | 165             | 164         | 162             | 154       | 154         | 150         | 147           | 147        | 147          | 147      | 147        | 145          | 145             | 145         | 145          | 145          | 141     | 127            | 127         | 127            | 127             | 127           | 126            | 126            | 126       | 121          | 110           | 110       | 110         |
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| 00-050- | -10-318-302-    | 93-15       | 9-832-355A-6    | -09-8     | 32-355A-5   | 32-355A-6   | S-10-268-447- | 83-817-    | -10-418-529- | -10-392- | 1          | -10-268-447- | US-10-083-817-2 | S-10-418-52 | -10-392-931- | -10-319-828- | 98-794- | -09-795-006A-9 | 9-795-006A- | -09-795-006A-8 | S-09-795-006A-8 | -09-795-006A- | -09-795-006A-6 | S-09-795-006A- | 95-006A-4 | -09-832-355A | S-10-268-447- | -10-083-8 | 29-         |
| equence | equence 1, Appl | equence 24, | equence 60, App | e 62, App | equence 59, | equence 61, | e 2,          | equence 1, | equence 2,   | e 2,     | equence 4, | e 4,         | equence 2,      | equence 4,  | e<br>4,      | equence 2,   | e 2,    | e 95,          | e 91,       | 87,            | 83,             | e 47,         | 63,            | e 55,          | e 43,     | equence 1,   | equence 11,   | e 11,     | equence 11, |

ALIGNMENTS

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PRIOR APPLICATION NUMBER: GB9519928.7
PRIOR FILING DATE: 1995-09-29
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FastSEQ for Windows Version 4
SEQ ID NO 13
LENGTH: 47
TYPE: PRT
ORGANISM: unknown
FEATURE:
OTHER INFORMATION: mammalian
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, NAME/KEY: PEPTIDE
; LOCATION: (1)...(47)
; OTHER INFORMATION: segment of VEGF
US-10-139-876-13
 US-10-139-876-13
 Sequence 13, Application US/10139876 Publication No. US20020123481A1 GENERAL INFORMATION:
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Best Local Similarity
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 PRIOR APPLICATION NUMBER: 09/043,476
PRIOR FILING DATE: 1998-03-18
PRIOR APPLICATION NUMBER: PCT/IB96/0113
PRIOR FILING DATE: 1996-09-30
PRIOR APPLICATION NUMBER: GB9612368.2
PRIOR FILING DATE: 1996-06-13
PRIOR FILING DATE: 1996-06-13
 APPLICANT: Oliviero, Salvatore
TITLE OF INVENTION: C-Fos Induced Growth Factor (Figf) And Dna Encoding Same
FILE REFERENCE: 35784/205172
CURRENT APPLICATION NUMBER: US/10/139,876
CURRENT FILING DATE: 2002-05-07
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APPLICANT: PONTEN, Annica
APPLICANT: UUTELA, Marko
APPLICANT: ALITALO, Kari
APPLICANT: ALITALO, Kari
APPLICANT: OESTMAN, Arne
APPLICANT: HELDIN, Carl-Henrik
APPLICANT: HELDIN, Carl-Henrik
TITLE OF INVENTION: PLATELET DERIVED GROWTH FACTOR D, DN
FILE REFERENCE: 1064/44833C2
FILE REFERENCE: 1064/44833C2
CURRENT APPLICATION NUMBER: US/10/260,539
CURRENT APPLICATION NUMBER: US/10/086,623
PRIOR APPLICATION UMBER: US/10/086,623
PRIOR FILING DATE: 2000-03-04
 SEQ ID NO 14
LENGTH: 79
LENGTH: 79
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
FEATURE:
NAME/KEY: misc_feature
OTHER INFORMATION: PDGF/VEGF-homology domain of VEGF-165
US-10-086-623-14
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US-10-260-539-14
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 US-10-086-623-14
 Query Match
Best Local Similarity
Matches 15; Conserv
 GENERAL INFORMATION:
 Sequence 14, App
Publication No.
 Sequence 14, Ap.
 APPLICANT: ERIKSSON, Ulf
APPLICANT: AASE, Karin
 PRIOR APPLICATION NUMBER: US 60/107,852
PRIOR FILING DATE: 1998-11-10
PRIOR APPLICATION NUMBER: US 60/113,997
PRIOR FILING DATE: 1998-12-28
PRIOR APPLICATION NUMBER: US 60/150,604
PRIOR FILING DATE: 1999-08-26
 APPLICANT:
 SOFTWARE: PatentIn version 3.1
 NUMBER OF SEQ ID NOS: 42
 FILE REFERENCE: 1064/44833C2
CURRENT APPLICATION NUMBER: 1
 APPLICANT:
 CURRENT APPLICATION NUMBER: US/10/086,623
 APPLICANT: ALITALÓ, Kari
APPLICANT: OESTMAN, Arne
APPLICANT: DESTMAN, Carl-Henrik
TITLE OF INVENTION: PLATELET DERIVED GROWTH FACTOR D, DNA CODING THEREFOR AND USES
 APPLICANT: ERIKSSON, Ulf
 FILING DATE: 1999-11-10
APPLICATION NUMBER: US 09/691,200
FILING DATE: 2000-10-19
 APPLICATION NUMBER: US 60/157,108
FILLING DATE: 1999-10-04
APPLICATION NUMBER: US 60/157,756
FILLING DATE: 1999-10-05
APPLICATION NUMBER: US 09/438,046
 47
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 EESNITMQIMRIKPH 16
 LI, Xuri
PONTEN, Annica
UUTELA, Marko
 Application US/10260539
No. US20030073637A1
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 Application US/10086623 to. US20020164710A1
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 89.5%; Score 77;
100.0%; Pred. No.
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 US-09-925-299-927
Sequence 927, Application US/09925299
Patent No. US20020055627A1
GENERAL INFORMATION:
APPLICANT: Rosen et al.
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies
FILE REFERENCE: PA102
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 RESULT 5
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Best Local (
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 PRIOR APPLICATION NUMBER: PCT/US00/05883
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 US-09-832-355A-2
 US-10-260-539-14
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 FILE REFERENCE: 205654
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CURRENT FILING DATE: 2001-04-10
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SOFTWARE: PatentIn version 3.0
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 GENERAL INFORMATION:
 Sequence 2, Application US/09832355A Publication No. US20030027751A1
 APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
 APPLICANT: Kovesdi, Imre APPLICANT: Kessler, Pau
 PRIOR APPLICATION NUMBER: US 09/691,200 PRIOR FILING DATE: 2000-10-19
 PRIOR APPLICATION NUMBER: US 60/157,756
PRIOR FILING DATE: 1999-10-05
PRIOR APPLICATION UMMBER: US 09/438,046
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FILING DATE: 1998-12-28
APPLICATION NUMBER: US 60/150,604
FILING DATE: 1999-08-26
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 APPLICATION NUMBER: US 60/107,852
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 PatentIn version 3.1
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 1998-11-10
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RESULT 7
US-09-795-006A-59
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US-09-795-006A-51
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 ; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybri
US-09-795-006A-51
 GENERAL INFORMATION:
APPLICANT: Alitalo et al
 Patent No. US2002015 GENERAL INFORMATION:
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SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 59
 Sequence 59,
Patent No. U
 Matches
 Sequence 51, Application US/09795006A Patent No. US20020151680A1
 Query Match
Best Local :
 SEQ ID NO 51
 Matches
 Query Match
 TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS FILE REFERENCE: 28967/35977B
 ORGANISM: Homo sapiens-
-09-925-299-927
 PRIOR FILING DATE: 2000-03-08
PRIOR APPLICATION NUMBER: 60/
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1556
 CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
PRIOR FILING DATE: 2000-02-25
PRIOR FILING DATE: 2000-02-25
PRIOR SEQ ID NOS: 175
 PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
 CURRENT APPLICATION NUMBER: US/09/795,006A CURRENT FILING DATE: 2001-02-26
 SOFTWARE: PatentIn Ver.
 TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAB AND PROTEINS FILE REFERENCE: 28967/35977B
 APPLICANT: Alitalo et al
 SOFTWARE: PatentIn Ver. 2.0
 LENGTH: 105
TYPE: PRT
 TYPE: PRT
 FEATURE:
 ORGANISM: Artificial Sequence
 ENGTH:
 Local
 Local
 56 EESNITMQIMRIKPH 70
 105
 15;
 15
 2 EESNITMQIMRIKPH 16
 9, Application US/09795006A
US20020151680A1
 h 89.5%;
Similarity 100.0%;
15; Conservative 0
 Similarity
 EESNITMQIMRIKPH 79
 EESNITMQIMRIKPH 16
 Conservative
 89.5%; Score 77;
100.0%; Pred. No.
 /124,270
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 Score 77; pred. No.
 Mismatches
 DB 9;
 2.4e-06;
 DB 10;
 2.4e-06;
 Length 105
 Length 105;
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 Gaps
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 RESULT 9
US-09-795-006A-163
 ; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid US-09-795-006A-161
 US-09-795-006A-161
 US-09-795-006A-59
 Matches
 SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 161
 GENERAL INFORMATION:
 Matches
 SEQ ID NO 163
 APPLICANT: Alitalo et al
 Sequence 163, App
Patent No. US200
 Query Match
 Sequence 161, Application Patent No. US20020151680A1
 Query Match
Best Local Similarity
 Best Local Similarity
 PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: Patentin Ver. 2.0
 TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAB AND PROTEINS FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR FILING DATE: 2000-05-18
 NUMBER OF SEQ ID NOS: 175
 PILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR PILING DATE: 2000-02-25
 APPLICANT: Alitalo et al TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS
FEATURE: OTHER INFORMATION: Description of Artificial Sequence:
 TYPE: PRT ORGANISM: Artificial Sequence
 FEATURE: OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
 TYPE: PRT ORGANISM: Artificial Sequence
 ORGANISM: Artificial Sequence
 TYPE: PRT
 LENGTH: 105
 LENGTH:
 66
 65 EESNITMQIMRIKPH 79
 15;
 15;
 105
 2 BESNITMQIMRIKPH 16
 EESNITMQIMRIKPH 16
 Application US/09795006A
 Application US/09795006A
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 Conservative
 0151680A1
 2000-02-25
 100.0%;
 100.0%;
 89.5%;
 89.5%;
 80
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 Score 77;
Pred. No.
 Score 77;
Pred. No.
 Mismatches
 Mismatches
 DB 10; 1
 DB 10;
 2.4e-06;
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 Length 105,
 Length 105
 Indels
 amino acid sequence
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 0
 Gaps
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 of hybrid
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 RESULT 10
US-09-925-299-927
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 ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-925-299-927
 ; OTHER INFORMATION: US-09-822-270-17
Query Match
Best Local Similarity
Matches 15; Conserv
 SEQ ID NO 927
 Matches
 Query Match
Best Local Similarity
 SEQ ID NO 17
 GENERAL INFORMATION:
 Sequence 17,
 Matches
 Publication No. US20 GENERAL INFORMATION:
 FILE REFERENCE: 205060000

CURRENT APPLICATION NUMBER: US/09/822,270

CURRENT FILING DATE: 2001-04-02

PRIOR APPLICATION NUMBER: US 60/193,396

PRIOR FILING DATE: 2000-03-31

NUMBER OF SEQ ID NOS: 17
 CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05883
PRIOR FILING DATE: 2000-03-08
PRIOR APPLICATION NUMBER: 60/124,270
PRIOR PILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1556
 FILE REFERENCE: PA102
CURRENT APPLICATION NUMBER: US/09/925,299
CURRENT FILING DATE: 2001-08-10
 APPLICANT: PLOUET, JEAN
APPLICANT: VASSAY, ROGER
TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MEDIJ
TITLE OF INVENTION: ANGIOGENESIS, POLYNUCLEOTIDES ENCODING SAID PEPTIDES AND METHODS
 APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies
 APPLICANT:
 APPLICANT:
 APPLICANT: TOURNAIRE, ROSELYNE APPLICANT: DEMANGEL, CAROLINE
 SOFTWARE: PatentIn Ver. 2.0
 SOFTWARE: PatentIn version 3.1
 APPLICANT:
 TYPE: PRT
ORGANISM: ARTIFICIAL SEQUENCE
FEATURE:
 LENGTH: 110
 ENGTH: 105
 Match 89.5%;
Local Similarity 100.0%;
 65
 2 EESNITMQIMRIKPH 16
 15; Conservative
 2 EESNITMQIMRIKPH 16
 DERBIN, CLAVE
PERRET, GERARD
MAZIE, JEAN-CLAUDE
 7, Application US/09822270
US20020068697A1
 EESNITMQIMRIKPH 79
 DEMANGEL,
 Application US/09925299
D. US20030040617A9
89.5%; Score 77; DB 9; Lot ilarity 100.0%; Pred. No., 2.5e-06; Conservative 0; Mismatches 0;
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 SYNTHETIC PEPTIDE
 89.5%; Score 77; 100.0%; Pred. No.
 0;
 Score 77; DB 11; pred. No. 2.4e-0
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 Mismatches
 Mismatches
 DB 10; 1
 2.4e-06;
 Length 110;
 Length 105;
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; ORGANISM: Homo sapien
US-10-392-931-10
 US-10-392-931-10
 ; OTHER INFORMATION: SYNTHETIC PEPTIDE US-10-342-371-17
 RESULT 12
US-10-342-371-17
 Best Lo
 Sequence 10, Application US/10392931
Publication No. US20030194643A1
GENERAL INFORMATION:
 SOFTWARE: F
 Query Match
 SOFTWARE: PatentIn version 3.1 SEQ ID NO 17
 Sequence 17, Application US/10342371 Publication No. US20030171289A1
 FILE REFERENCE: SCIOS 003A
CURRENT APPLICATION NUMBER: US/10/392,931
CURRENT FILING DATE: 1999-09-09
PRIOR APPLICATION NUMBER: 60/09694
PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
 APPLICANT: Scios, Inc.
APPLICANT: University of Washington
TITLE OF INVENTION: TREATMENT OF MICROVASCULAR ANGIOPATHIES
 FILE REFERENCE: 205060US0
CURRENT APPLICATION NUMBER: US/10/342,371
CURRENT FILING DATE: 2003-01-15
PRIOR APPLICATION NUMBER: US/09/822,270
PRIOR FILING DATE: 2001-04-02
PRIOR APPLICATION NUMBER: US 60/193,396
PRIOR APPLICATION NUMBER: US 60/193,396
PRIOR FILING DATE: 2000-03-31
 PRIOR APPLICATION NUMBER: 60/126615 PRIOR FILING DATE: 1999-03-27
 APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
APPLICANT: Scios, Inc.
APPLICANT: University of Washi
 APPLICANT: VASSAY, ROGER
TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MEDIA
TITLE OF INVENTION: ANGIOGENESIS, POLYNUCLEOTIDES ENCODING SAID PEPTIDES AND METHODS
 APPLICANT:
 APPLICANT: TOURNAIRE, ROSELYNE APPLICANT: DEMANGEL, CAROLINE
 NUMBER OF SEQ ID NOS:
 NUMBER OF SEQ ID NOS: 17
 TYPE: PRT
ORGANISM: ARTIFICIAL SEQUENCE
 TYPE: PRT
 FEATURE:
 LENGTH: 110
 ENGTH:
 Local Similarity hes 15; Conserv
 72 EESNITMQIMRIKPH
 110
 2 EESNITMQIMRIKPH 16
 FastSEQ for Windows Version 4.0
 MAZIE, JEAN-CLAUDE PLOUET, JEAN
 EESNITMQIMRIKPH
 EESNITMQIMRIKPH
 89.5%; Solitarity 100.0%; I Conservative 0;
 86
 86
 16
 Score 77; DB 12;
; Pred. No. 2.5e-06;
0; Mismatches 0;
 Length 110;
 Indels
 0,
 0
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RESULT 15
US-10-418-529-10
; Sequence 10, App;
publication No.
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 APPLICANT: Scios, Inc.
APPLICANT: University of Washington
APPLICANT: University of Washington
FITLE OF INVENTION: TREATMENT OF MICROVASCULAR ANGIOPATHIES
FILE REFERENCE: SCIOS.03A
CURRENT APPLICATION NUMBER: US/10/392,931
CURRENT FILING DATE: 1999-09-99
PRIOR APPLICATION NUMBER: 60/09694
PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 60/126406
PRIOR APPLICATION NUMBER: 60/126406
PRIOR APPLICATION NUMBER: 60/126406
PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR FILING DATE: 1999-03-27
NUMBER: 05/12615
PRIOR FILING DATE: 1999-03-27
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 ; LENGTH: 110
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-392-931-11
 US-10-392-931-11
 PRIOR APPLICATION NUMBER: 60/099694
PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/126615
PRIOR APPLICATION NUMBER: 60/126615
PRIOR FILING DATE: 1999-03-27
PRIOR APPLICATION NUMBER: 09/392931
PRIOR FILING DATE: 1999-09-09
NUMBER OF SEQ ID NOS: 11
 Query Match
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Matches 15
 Query Match 89.5
Best Local Similarity 100.
Matches 15; Conservative
 SOFTWARE: F
 Sequence 11, Application US/10392931
Publication No. US20030194643A1
 SEQ ID NO 11
 SENERAL INFORMATION:
 APPLICANT: Scios, Inc.
APPLICANT: University of Washington
TITLE OF INVENTION: TREATMENT OF ECLAMPSIA AND PREECLAMPSIA
FILE REFERENCE SCIOS.003C1
CURRENT APPLICATION NUMBER: US/10/418,529
CURRENT FILING DATE: 2003-04-16
 SENERAL INFORMATION:
 APPLICANT: Schreiner, George F. APPLICANT: Johnson, Richard J.
 SOFTWARE: FastSEQ for Windows Version 4.0
 APPLICANT: Schreiner, George F. APPLICANT: Johnson, Richard J.
TYPE: PRT ORGANISM: Homo sapien
 LENGTH: 110
 72
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 2 EESNITMQIMRIKPH 16
 Similarity
 FastSEQ for Windows Version 4.0
 EESNITMQIMRIKPH 16
 EESNITMQIMRIKPH 86
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 Application US/10418529
 Conservative
 89.5%; Score 77; DB 12;
100.0%; Pred. No. 2.5e-06;
htive 0; Mismatches 0;
 89.5%; Score 77; DB 12; Length 110; 100.0%; Pred. No. 2.5e-06;
 0,
 Mismatches
 0; Indels
 Length 110;
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 0,
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Query Match 89.5%; Score 77; DB 12; Length 110;
Best Local Similarity 100.0%; Pred. No. 2.5e-06;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps
Qy 2 EESNITMQIMRIKPH 16
Db 72 EESNITMQIMRIKPH 86
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Search completed: January 30, 2004, 12:15:02 Job time : 15.9609 secs

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Title:
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Maximum Match 100%
Listing first 45 summaries
 Minimum DB seq length: 0
Maximum DB seq length: 200000000
 Total number of hits satisfying chosen parameters:
 Scoring table:
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 Searched:
 9
 Pred. No. is the number of results predicted by chance to have score greater than or equal to the score of the result being and is derived by analysis of the total score distribution.
 Score
 protein search, using sw model
 PIR_76:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
 Query
Match Length DB
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Gapop 10.0 , Gapext 0.5
 US-09-266-543-9
86
 283308 seqs, 96168682 residues
 January 30, 2004, 11:34:23;
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 GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.
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HC-toxin
CONSETMSVII
HC-toxin
CONSETMSVII
HC-toxin
CONSETMSVII
HC-toxin
 vascular
 Descript
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## ALIGNMENTS

|                             | RESULT 1                                                                                                                                                               |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | A41551<br>vascular endothelial growth factor 206 precursor - human<br>N;Alternate names: vascular permeability factor                                                  |
|                             | G;Species: Homo sapiens (man)  C;Species: Homo sapiens (man)  C:Date: 28-Aug-1992 #semience revision 28-Aug-1992 #text change 05-Nov-1999                              |
|                             | C;Accession: A41551; C41551; B41551; A40454; B40454; C40454; A40079; A40080; JQ1463; JQ1. B:Houck K A : Ferrara N : Winer J : Cachianes G : Ii B : Leung D W           |
|                             |                                                                                                                                                                        |
|                             | A;Title: The Vascular endothelial growth ractor ramily: identification of a routth molectar, Reference number: A41551; MUID:92168017; PMID:1791831                     |
|                             | A;Accession: A41551                                                                                                                                                    |
| ave a                       | A;Molecule Cype: mkNA<br>A;Residues: 1-232 <hou1></hou1>                                                                                                               |
| g printed,                  | N.Cross-references: GB:S85192; NID:9246155; PID:9246156                                                                                                                |
|                             | A;Status: nucleic acid sequence not shown                                                                                                                              |
|                             | A;Molecule type: mRNA<br>A:Residues: 1-140 'N' 181-212 <hotz></hotz>                                                                                                   |
| 2                           | A; Accession: 841551                                                                                                                                                   |
|                             | A;Molecule type: mRNA                                                                                                                                                  |
| ar endotheli                | A;Residues: 1-141,227-232 <houv< td=""></houv<>                                                                                                                        |
| ar endotheli                | J. Biol. Chem. 266, 11947-11954, 1991                                                                                                                                  |
| ar endotheli                | A;Title: The human gene for vascular endothelial growth factor. Multiple protein forms a                                                                               |
| vascular end                | A;Reterence number: A40454; MUID:91268072; PMID:1711045                                                                                                                |
| ar endotheli                | A; Molecule type: DNA                                                                                                                                                  |
| -derived vas                | A;Residues: 1-165,183-232 <ti1></ti1>                                                                                                                                  |
| ar endotheli                | A;Cross reterences: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63976; GB                                                                               |
| tal growth f                | A, Molecule type: DNA                                                                                                                                                  |
| etical prote                | A;Residues: 1-140,'N',183-232 <ti2></ti2>                                                                                                                              |
| le dolichyl-                | A;Crose-referencee: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63977; GB                                                                               |
| tal growth f                | A; Molecule type: DNA                                                                                                                                                  |
| vltransferas                | A;Residues: 1-141,227-232 <ti3></ti3>                                                                                                                                  |
| book prote                  | A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63978  - Refer P T + Hauser R D * Krivi G - Ranzo K * Warren T - Feder T - Connolly D T |
| etical prote                | Science 246, 1309-1312, 1989                                                                                                                                           |
| anslocase sp                | A; Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF.                                                                                   |
| aral mainten<br>avin kinase | A;Reterence number: A40079; MUID:90069609; PMID:2479987<br>A:Accession: A40079                                                                                         |
| nock protein                | A;Status: not compared with conceptual translation                                                                                                                     |
| V113 probabl                | A; Molecule type: mRNA                                                                                                                                                 |
| red hypothet                | A;Residues: 1-165;183-232 <kec> A:Gesidues: 1-165;183-232 <kec></kec></kec>                                                                                            |
| protein -                   | R; Leung, D.W.; Cachianes, G.; Kuang, W.U.; Goeddel, D.V.; Ferrara, N.                                                                                                 |
| nannose dehy                | Science 246, 1306-1309, 1989                                                                                                                                           |
| etical prote                | A;Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.                                                                                          |

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A;Molecule type: mRNA
A;Residues: 1-116,'ER',119-190 <CLA>
A;Cross-references: GB:M95200; NID:g202350; PIDN:AAA40547.1; PID:g202351
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 A;Description: promotes fluid and protein leakage from blood vessels C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular pr. F;1-232/Product: vascular endothelial growth factor 206 precursor #status predicted <V2: F;1-165,183-232/Product: vascular endothelial growth factor 189 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction = F;1-141,227-232/Product: vascular endothelial growth factor 122 prediction = F;1-141,227-
 A;Note: sequence extracted from NCBI backbone (NCBIN:107622, R;Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M. J. Biol. Chem. 267, 16317-16322, 1992
A;Tille: Vascular endothelial growth factor. Regulation by c.A;Reference number: A43351; MUID:92355593; PMID:1644816
 A;Residues: 1-190 <BRE>
A;Cross-references: GB:S38083; NID:g249858; PIDN:AAB22253.1; PID:g249859
A;Experimental source: embryo
 A; Title: Expression of vascular endothelial growth factor during A; Reference number: A44881; MUID:92274860; PMID:1592003
 R;Breier, G.; Albrecht, U.; St. Development 114, 521-532, 1992
 C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change
C;Accession: B44881; A43351; A61029
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 A;Molecule type: protein
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C;Comment: The most common of several alternatively spliced
 R;Weindel, K.; Marme, D.; Weich, H.Ā.
Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
A;Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial A;Reference number: JQ1463; MUID:92231879; PMID:1567395
A;Accession: JQ1463
 A; Accession: A43351
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 A;Cross-references: GDB:132244; OMIM:192240
A;Map position: 6p21-6p12
 A;Reference number: A34492; MUID:90062112; PMID:2584205
A;Accession: A34492
 R;Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monsell, R.; Siegel, J. Biol. Chem. 264, 20017-20024, 1989
A;Title: Human vascular permeability factor. Isolation from U937 cells.
 A; Molecule type: mRNA
 A;Reference number: A40080; MUID:90069608; PMID:2479986
 A; Molecule type: mRNA
 A;Accession: B44881
 A;Gene: GDB:VEGF
 Experimental source:
 , Molecule type: mRNA
 Accession: A40080
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 Accession: JQ1464
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Experimental source: AIDS-Kaposi's sarcoma
 ;Molecule type: mRNA
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 98
 N
 15;
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 EESNITMQIMRIKPH 16
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 U.; Sterrer, S.; Risau,
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 1.8e-06;
hes 0;
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cell
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 forms is VEGF 165.
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 PID: g37659
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 RESULT 4
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A; Molecule type: mRNA
A; Molecule type: mRNA
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A; Molecule type: mRNA
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 A;Molecule type: protein
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A;Residues: 27-33 <CLA>
R;Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa, R.
Biochim. Biophys. Acta 1224, 365-370, 1994
A;Title: Enhanced expression of multiple forms of VEGF is associated
A;Reference number: S52136; MUID:95101726; PMID:7803491
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C;Date: 03-Feb-1994 #Bequence_revision 03-Feb-1994 #text_change 08-Oct-1999
 A;Residues: 27-38 <ROS> C;Keywords: alternative splicing;
 Growth Factors 4, 53-59, 1990 A; Title: Conditioned medium fi
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 A; Note: sequence extracted
 A; Experimental source: emb
 A;Cross-references: GB:S37052; NID:g249856; PIDN:AAB22252.1;
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A; Residues: 1-214 < BRE>
 A; Accession: A44881
 A;Title: Expression of vascular endothelial growth factor during embryonic angiogenesis A;Reference number: A44881; MUID:92274860; PMID:1592003
 R; Breier, G.; Albrecht, U.; Sterrer, Development 114, 521-532, 1992
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 1.2e-05;
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 NCBIP:110675)
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submitted to the EMBL Data Li
 A;Title: Vascular endothelial growth factor: a new member of the platelet-derived growth A;Recession: A33787; MUID:90121225; PMID:2610687
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A;Residues: 1-190 <SHA>
A;Cross-references: GB:X81380; NID:g587559; PIDN:CAA57143.1; PID:g587560
 vascular endothelial growth factor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
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 ovine vascular endothelial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon aries C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996
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 A;Molecule type: mRNA
A;Residues: 1-120 <TIS>
A;Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
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 Biochim. Biophys. Acta 1260, 235-
A;Title: Nucleotide sequence and
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 71
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 e and expression of the porcine vascular endothelial growth MUID:95143284; PMID:7841203
 J.; Jones, S.C.; Moor, R.M.
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RESULT 7

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R;Conn, G.; Bayne, M.L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K.A.; Palisi, T.M.; Hope, Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
A;Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is ho A;Reference number: A35987; MUID:90207249; PMID:2320579
A;Accession: A35987
 vascular endothelial growth factor precursor (version 2) - bovine C;Species: Bos primigenius taurus (cattle) C;Cpate: 30-Jun-1992 #sequence revision 30-Jun-1992 #text_change 05-Nov-1999 C;Accession: B40080; B33787; A33255 R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N. Science 246, 1306-1309, 1989 Science 246, 1306-1309, 1989 A;Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
vascular endothelial growth factor - quail (fragment)
C;Species: Phasianidae gen. sp. (quail)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change
C;Accession: I51295
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A; Residues: 1-190 < LED:
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A; Crisp Circher, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Crisp Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A; Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
 C;Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change C;Accession: A35987
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A;Cross-references: GB:M31836; NID:g163808; PIDN:AAA30804.1; PID:g163809
B;Ferrara, N.; Henzel, W.J.
Biochem. Biophys: Res. Commun. 161, 851-858, 1989
Biochem. Biophys: Res. Commun. 161, 851-858, 1989
A;Title: Bituitary follicular cells secrete a novel heparin-binding growth factor specify. Reference number: A33255; MUID:89286596; PMID:2735925
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 A;Cross-references: GB:M32167; NID:g204287; PIDN:AAA41211.1; PID:g204288
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 R;DiSalvo, J.; Bayne, M.L.; Conn, G.; Kwok, P.W.; Trivedi, P.G.; J. Biol. Chem. 270, 7717-7723, 1995
A;Title: Purification and characterization of a naturally occurri A;Reference number: A56125; MUID:95221439; PMID:7706320
A;Accession: A56125
 placental growth factor precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change 05-Nov-1999
C;Accession: A56125
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 Neuron 11, 673-687, 1993

A;Title: Neuromusculin, a Drosophila gene expressed in peripheral neuronal precursors A;Reference number: Z17697; MUID:94000831; PMID:8398154

A;Accession: T13669
 neuromusculin - fruit fly (Drosophila melanogaster)
C;Species: Drosophila melanogaster
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Neuron 11,
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 mme, I.; Breier, G.; Risau,
Biol. 169, 699-712, 1995
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 A.; Han,
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Pred. No. 0.02
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R;Hall, J.; DePaullo, T.; Ahmed, A.; Bussey, H.; Fortin, N.; Friesen, J.D.; is submitted to the EMBL Data Library, December 1995
 R;Harris, D.; McDonald, S.; Barrell, B.G.; Rajandream, submitted to the EMBL Data Library, February 1996 A;Reference number: Z21794 A;Accession: T38465
 A;Cross-references: EMBL:U23168; PIDN:AAC38806.1; CESP:B0228. A;Experimental source: strain Bristol N2 C;Genetics:
 hypothetical protein B0228.2 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999 C;Accession: T29043
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A;Cross-references: GDB:134676; OMIM:601121
A;Map position: 14q24-14q31
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C;Date: 19-Jun-1992 #sequence_revision 19-Jun-1992 #text_change 05-Nov-1999
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C;Keywords: AFP
F;39-313/Domain: protein kinase homology <KIN>
F;47-55/Region: protein kinase ATP-binding motif
 R;Maglione, D.; Guerriero, V.; Viglietto, G.; Delli-Bovi, P.; Persico, M.G. Proc. Natl. Acad. Sci. U.S.A. 88, 9267-9271, 1991 A;Title: Isolation of a human placenta cDNA coding for a protein related to the vascular A;Reference number: A41236; MUID:92021031; PMID:1924389
 A; Map position: 16L
A; Note: YPL141c
 A;Residues: 1-865 <HAL>
 A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-149 <MAG>
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 A;Cross-references: SGD:S0006062
 ;Cross-references: GB:X54936; NID:g35521; PIDN:CAA38698.1; PID:g35522
 Query Match
Best Local S
 Genetics:
 Matches
 / Match 48.8%; Score 42; DB 2; Local Similarity 53.3%; Pred. No. 21; res 8; Conservative 4; Mismatches
 86
 2 EESNITMQIMRIK 14
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98 ETANVTMQLLKIR 110
 Conservative
 47.7%; Score 41; 46.2%; Pred. No.
 6;
 Mismatches
 DB 2;
 1; Indels
 3; Indels
 Length 149;
 Length 865;
 0;
 0;
 Gaps
 Gaps
 0;
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Result
No.
 Minimum
Maximum
 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
 Database
 Scoring table:
 Sequence:
 Title:
Perfect score:
 Run on:
 OM protein - protein search, using sw model
 Total number of hits satisfying chosen parameters:
 Searched:
 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
 DB DB
 Score
 ••
 seq length: 0
seq length: 2000000000
 Query
Match
 US-09-266-543-9
86
 127863 seqs, 47026705 residues
 BLOSUM62
Gapop 10.0 , Gapext 0.5
 January 30, 2004, 11:27:48;
 SwissProt_41:*
 CEESNITMQIMRIKPH
 Copyright
 Length
 GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
 BB
SYA BUCBP
PLOF BOVIN
RIBC BACSU
ETPI MSEPV
DSG2 MOUSE
HTSI COCCA
HAP2 KLULA
THII TREPA
T
 IRS2_HUMAN
OSTA_SCHPO
PLGF_HUMAN
HS7L_SBYV
SP3E_BACSU
 VEGA_HORSE
VEGA_CHICK
PLGF_MOUSE
PLGF_RAU
 VEGA HUMAN
VEGA MOUSE
VEGA SHEEP
VEGA CAVPO
VEGA BOVIN
VEGA MESAU
VEGA PIG
VEGA CANFA
VEGA RAT
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 SUMMARIES
 ; Search time 3.69231 Seconds (without alignments) 203.782 Million cell updates/sec
 127863
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Q00731 mus musculu
P50412 ovis aries
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 o equus cabal
gallus gall
us gall
us musculu
rattus norv
homo sapien
c schizosacch
homo sapien
sugar beet
bacillus su
buchnera ap
bos taurus
bacillus su
melanoplus
9 s genome po
1 s genome po
9 human papil
4 caenorhabdi
3 drosophila
 1 mus musculu
6 cochliobolu
8 kluyveromyc
0 treponema p
6 escherichia
 cavia porce
 sus scrofa
canis famil
 mesocricetu
 bos taurus
 rattus norv
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## ALIGNMENTS

| R R R R R R R R R R R R R R R R R R R                                                                                                                        | RR | Z 27 2                            | 2 2 2<br>2 2 3                                          | 2                                                                | # ₽<br>₽                                                           | 쭚 | : R 2      | 23                                                             | R 5                                                              | 2 R                                                              | 굕 :                       | 7 7<br>7 7                              | 27                           | R X                                                                           | 3 ₹   | R.                                                               | ₹ ?             | R R                                                           | 급:                           | Z :                                   | R R                                                          | 2 2          | R R | 2 X              | ጸ                                    | 88 | 88             | B                          | 3 5               |                |                                | 383                            | RESULT<br>VEGA_H                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----------------------------------|---------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------|---|------------|----------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|---------------------------|-----------------------------------------|------------------------------|-------------------------------------------------------------------------------|-------|------------------------------------------------------------------|-----------------|---------------------------------------------------------------|------------------------------|---------------------------------------|--------------------------------------------------------------|--------------|-----|------------------|--------------------------------------|----|----------------|----------------------------|-------------------|----------------|--------------------------------|--------------------------------|-------------------------------------|
| EMOCTHELIAI GIOWEN FACCOF."; BIOCHEM. Biophys. Res. Commun. 183:1167-1174(1992). [6] SEQUENCE FROM N.A. (ISOFORM VEGF145). MEDLINE=97207275; PubMed=9054410; | ィヌ | VEDLINE-92231879; PubMed=1567395; | OI kNA.";<br>Mol. Endocrinol. 5:1806-1814(1991).<br>[K] | urth molecular species and characterization of alternative splic | Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W.; |   | CHEII. 200 | protein forms are encoded through alternative exon splicing."; | "The human gene for vascular endothelial growth factor. Multiple | Tischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D., | 91268072; PubMed=1711045; | SECULIANCE FROM N.A. (ISOFORM VEGETAG). | Science 246:1309-1312(1989). | ""ABCULAR permeability lactor, an endotherial cell mitogen relaced to PDGF."; | D.T.; | Keck P.J., Hauser S.D., Krivi G., Sanzo K., Warren T., Feder J., | PubMed=2479987; | SPONTENCE FROM N.A. (TROPORM VEGE189). AND PARTIAL SPONTENCE. | Science 246:1306-1309(1989). | · · · · · · · · · · · · · · · · · · · | "Vascular endothelial growth factor is a secreted angiogenic | Med=2479986; |     | NCBI_TaxID=9606; | ia; Primates; Catarrhini; Hominidae; |    | VEGF OR VEGFA. | D. P. C. C. C. C. C. C. C. | , Last annotation | (Rel. 41, Last | 01-ADR-1990 (Rel. 14. Created) | 720; 075875; Q16889; Q96NW5; Q | LT 1<br>HUMAN STANDARD: PRT. 232 AA |

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{\tt TISSUE=Hemangioendothelioma;} Murata H., Fukushima J., Hattori S., Okuda K., Y "Human cDNA for the vascular endothelial growth
 <u>정</u>
인
MEDLINE=93145946;
Fiebich B.L., Jaec
Kochs G., Marme D
 Siegel N., Haymore B.L., Leimgruber R., Feder i "Human vascular permeability factor. Isolation J. Biol. Chem. 264:20017-20024(1989).
 MEDLINE=90062112; PubMed=2584205; Connolly D.T., Olander J.V., Heuv
 Rieder M.J., Armel T.Z., Carrington D.P., Chur
Poel C.L., Toth E.J., Yi Q., Nickerson D.A.;
Submitted (OCT-2001) to the EMBL/GenBank/DDBJ
 Submitted
 Sato J.D., Whitney R.G.; "Human cDNA for vascular endothelial growth
 SEQUENCE FROM N.A.
 and
 TISSUE=Renal glomerulus;
MEDLINE=99394945; PubMed=10464055;
 Submitted
 Jingjing L., Xue Y., Agarwal N., Roque R.S.; "Human Muller Cells express VEGF183, a novel s vascular endothelial growth factor."; [nyest. Ophthalmol. Vis. Sci. 40:752-759(1999)
 MEDLINE=99165303;
 Claffey K.P., Shih S.-C., Mullen A., Dziennis S., Abrams K.R., Lee S.W., Detmar M.; "Identification of a human VPF/VEGF 3' untranslate hypoxia-induced mRNA stability.";
 MEDLINE=98119755;
 SEQUENCE FROM N.A. (ISOFORM VEGF165)
 "Identification and characterization of a new splicing vascular endothelial growth factor: VEGF183.";
 MEDLINE=99096474;
 SEQUENCE
 Poltorak Z., Cohen T., Sivan R., Kandelis
Keshet E., Neufeld G.;
"URGF145, a secreted vascular endothelial
binds to extracellular matrix.";
 SEQUENCE OF 27-41.
 PRELIMINARY SEQUENCE OF 27-36; 43-50 AND
 SEQUENCE OF 23-232
 Williams
 SEQUENCE
 SEQUENCE OF 114-209 FROM N.A. (ISOFORM VEGF183).
 and receptor mRNA expression in human glomeruli, and the identification of VEGF148 mRNA, a novel truncated splice variant.";
 "Heterogeneous vascular endothelial growth factor (VEGF)
 Harper S.
 VEGF165.
 [SSUE=Retina;
 SSUE=Breast;
 Jiang A.,
 .
.
 FROM
 Biophys.
 Chem.
 FROM N.A.
 FROM N.A.
 FROM N.A. (ISOFORM VEGF183)
 (DEC-2000)
 (DEC-1999)
 (DEC-1998) to the
 J., Gillespie K.M.,
 Cell
 97:303-312(1999).
 N.A.
 Jaeger
 272:7151-7158(1997).
 9:469-481 (1998).
 PubMed=10067980;
 PubMed=9450968;
 Acta 1443:400-406(1998).
 PubMed=7678805;
ger B., Schoellmann
 PubMed=9878851;
 Pei D.;
 FROM N.A. (VEGF165)
 (ISOFORM VEGF165)
 (ISOFORM VEGF121).
 (ISOFORM VEGF148)
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 EMBL/GenBank/DDBJ
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 Feder J
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 Nelson R.,
 Mathieson
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 Spira G.,
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 Yanagi H.;
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 Monsell R.,
 Lee
 variant
 isoform that
 Vlodavsky I.,
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 cells.";
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 VEGF121.",
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Eur. J. Biochem. 21 [17]
 Murphy J.F., Fitzgerald D.J.;
"Vascular endothelial growth factor induces cyclooxygenase-dependent proliferation of endothelial cells via the VEGF-2 receptor.";
FASEB J. 15:1667-1669(2001).
 Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A., Starovasnik M.A.;
"1H, 13C, and 15N backbone assignment and secondary structure of receptor-binding domain of vascular endothelial growth factor.", Protein Sci. 6:2250-2260(1997).
 +
 MEDLINE=98298440;
Fairbrother W.J.,
Starovasnik M.A.;
 MEDLINE=98035455;
Muller Y.A., Chris
"The crystal struc
 "Synthesis and assembly of functionally active human vascular endothelial growth factor homodimers in insect cells.";
 -
 Wiesmann C., Christinger H.W.,
Fairbrother W.J., Keenan C.J.,
 Structure
 binding."
 X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS)
MEDLINE=97352774; PubMed=9207067;
 FUNCTION
 Structure
 "Solution structure of the heparin-binding domain of vascular
 STRUCTURE
 MEDLINE=97477915;
 STRUCTURE BY
 Biochemistry
 peptide."
 "Crystal structure of
 MEDLINE=99119204;
 X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134
 refined to 1.93-A resolution:
 X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF
 "Vascular endothelial
 with PIGF (By SIMILALLY).

WEGETLULAR LOCATION: VEGF121 is acidic and freely secreted.

VEGF165 is more basic, has heparin-binding properties and,

although a signicant proportion remains cell-associated, most
freely secreted. VEGF189 is very basic; it is cell-associated
 form by "Franciscopy Named is Event=Alternative splicing; Named is Event=Alternative splicing; Named is
 PUNCTION: Growth factor active in angiogenesis, vasculogenesis are endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin. Neuropilin-1 binds isoforms VEGF-145.
 SUBUNIT: Homodimer; disulfide-linked. with PIGF (By similarity).
 Name=VEGF189
 extracellular matrix, although it may be form by heparin, heparinase or plasmin.
 IsoId=P15692-1;
 [soId=P15692-2;
 of the
 al growth factor.";
6:637-648(1998).
 BY NMR OF 137-215
 5:1325-1338(1997).
 NMR
 Li B.,
 structure of vascular endothelial
 Christinger H.W., Keyt B.A.,
 37:17765-17772(1998)..
 kinase
 OF 34-135.
; PubMed=9336848;
, Champe M.A., Christinger H.W.,
 211:19-26(1993).
 PubMed=9634701;
Champe M.A., Ch
 PubMed=99
 lial growth factor: crystal structure and nase domain receptor binding site."; Sci. U.S.A. 94:7192-7197(1997).
 PubMed=9351807;
 Christinger H.W.,
 nan C.J., Meng G., de
the complex between
Sequence=VSP_004622;
 Sequence=Displayed;
 multiple
 Christinger H.W.,
 Cochran
 Wells J.A.,
 OF 34-135
 isoforms=7
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 functional
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 (VEGF)
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RESULT 2
VEGA_MOUSE
 8
 8
 Query Match
Best Local S
Matches 15
 MEDLINE=96216498, PubMed=8632007;
Shima D.T., Kuroki M., DeutBsch U., Ng Y., Adamis A.P., D'Amore
"The mouse gene for vascular endothelial growth factor. Genomic
structure, definition of the transcriptional unit, and
characterization of transcriptional and post-transcriptional
 VEGA_MOI
 01-APR-1993 (Rel. 25, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPF).
 -
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 -
 SEQUENCE OF 1-3 FROM N.A.
 MEDLINE=92355593, PubMed=1644816;
Claffey K.P., Wilkison W.O., Spie,
"Vascular endothelial growth facily
differentiation and activated seco
 SEQUENCE FROM N.A.
 Breier G., Albrecht U., Sterrer S., Risau W.; "Expression of vascular endothelial growth factor during embryonic angiogenesis and endothelial cell differentiation."; Development 114:521-532(1992).
 Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
 Mus musculus (Mouse).
 VEGF
 regulatory sequences."
 SEQUENCE FROM N.A.
 MEDLINE=92274860;
 Biol.
 Name=VEGF-3; Synonyms=VEGF188;
IsoId=000731-1; Sequence=Displayed;
Name=VEGF-1; Synonyms=VEGF164;
IsoId=000731-2; Sequence=VSP 004626,
Name=VEGF-2; Synonyms=VEGF120;
 Biol. Chem. 271:3877-3883 (1996).

FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 ISOId-Q00731-3; Sequence-VSP 004628; TISUE SPECIFICITY: In developing embryos, expressed mainly in choroid plexus, paraventricular neuroepithelium, placenta and kidney glomeruli. Also found in bronchial epithelium, adrenal gland and in seminiferous tubules of testis. High expression vEGF continues in kidney glomeruli and choroid plexus in adult DOMAIN; VEGF-3 contains a basic insert which acts as a cell
 SUBCELLULAR LOCATION: VEGF-1 and VEGF-2 are remains cell-surface associated unless relea
 heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also with PlGF (By similarity).
 ALTERNATIVE PRODUCTS:
Event=Alternative splicing; Named isoforms=3;
 _TaxID=10090;
 retention
 OR VEGFA.
 MOUSE
 86
 15,
 N
 Similarity
 Chem.
 EESNITMQIMRIKPH 16
 Conservative
signal.
Y: BELONGS
 Wilkison W.O., Spiegelman B.M.;
thelial growth factor. Regulation by cell
n and activated second messenger pathways.";
267:16317-16322(1992).
 STANDARD;
 PubMed=1592003;
 (ISOFORM VEGF-1).
 (ISOFORMS VEGF-1; VEGF-2
 89.5%;
 ö
 THE PDGF/VEGF FAMILY OF GROWTH FACTORS
 0
 Score 77; Pred. No.
 Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
 PRT;
 Mismatches
 214 AA
 DB 1; Lo
 VSP_004627;
 released by heparin.
 AND
 0;
 Length 232;
 found
 (VEGF-A) (Vascular
 secreted while
 factor. Genomic
 VEGF-3)
 High expression of id plexus in adults
 Indels
 as heterodimer
 0
 VEGF-3
 P.A.;
 Gaps
 and
 0
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RESULT 3
VEGA_SHEEP
 S
 RRRRR OCCOORDED TO THE
 밁
 Query Match
Best Local S
Matches 14
 P50412;
01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
028-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor
 VEGA SHEEP
P50412;
 CONFLICT
 DISULFID CARBOHYD
 DISULFID
DISULFID
DISULFID
DISULFID
 SMART; SMOUT4; PDGF 1; 1.

PROSITE; PS50278; PDGF 2; 1.

PROSITE; PS50278; PDGF 2; 1.

Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signification; Angiogenesis; Growth factor; Multigene family.
 Mammalia; Eutheria;
Bovidae; Caprinae; (
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MGD; MGI:103178; Vegfa.
MGD; MGI:10307072; PD_growth_factor.
 EMBL; S37052; AAB22252.1; -.
EMBL; S38083; AAB22253.1; -.
EMBL; S38100; AAB22254.1; -.
EMBL; M95200; AAA40547.1; -.
MEDLINE=97117958; PubMed=8958842; Redmer D.A., Dai Y., Li J., Charn Reynolds L.P., Moor R.M.;
 Ovis aries
 VARSPLIC
 VARSPLIC
 CHAIN
 Heparin-binding; SIGNAL 1
 Pfam; PF00341; PDGF; ProDom; PD001629; PD
 PIR; A44881; A44881.
PIR; B44881; B44881.
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 entities requires a
 the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
 This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
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 SEQUENCE
 Eukaryota; Metazoa;
 VARSPLIC
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 FROM N.A.
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 117
214 AA;
 (Sheep).
 141
 Conservative
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82
86
76
100
 -; NOT_ANNOTATED_CDS
 STANDARD;
 Ovis.
 118
25283
 208
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 Chordata; Craniata; Vertebrata; Cetartiodactyla; Ruminantia; Pec
 _growth_factor; 1.
 83.7%;
100.0%
 16
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 <u>,,</u>
 Charnock-Jones
 Score Pred.
 splicing; Multigene family.
BY SIMILARITY.
VASCULAR ENDOTHELIAL GROWTH FACTOR
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
 S
 Missing (In isoform VEGF-2)
 /FTId=VSP_004626.
Missing (In isoform. VEGF-1).
 INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. .) (PROBABLE)
 /FTId=VSP_004628.
3E -> ER (IN REF. 2)
 FTId=VSP
 PRT;
 B5540B51E4BB6E17
 -> N (in isoform VEGF-1).
 Mismatches
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No.
 146 AA
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 Usage
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 Length 214
 (VEGF-A)
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 Euteleostomi;
 Signal;
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VEGA
 RESULT
 Matches
 Query Match
Best Local
 P26617;
01-AUG-1992 (Rel. 23, C
01-AUG-1992 (Rel. 23, L
28-FEB-2003 (Rel. 41, I
 Heparin-binding, Multigene f. SIGNAL 1 26 CHAIN 27 146 DISULFID 51 93 DISULFID 82 127 DISULFID 86 129 DISULFID 76 76 76 76 CARBOHYD 100 100 CARBOHYD 100 100
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VEGA(
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between
 J. Reprod. Fertil. 108:157-165(1996).

-!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and the induces endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
Submitted (JAN-1992) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Growth factor active in angiogenesis, and cell growth. Induces endothelial proliferation and vertex permeability (By similarity).
 Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
 factor)
 the
 Berse B.;
 TISSUE=Bile duct;
 NCBI_TaxID=10141;
 Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata;
 Vascular endothelial growth
 SEQUENCE
 PROSITE;
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
 InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
 HSSP; P15692; 1VPP.
 EMBL; X89506; CAA61677.1; PIR; S57956; S57956.
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 factor (VEGF) in the
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 heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 SIMILARITY:
 S57956; S57956.
 OR VEGFA.
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 SWISS-PROT entry is copyright. It is produced through a collaboration -
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 l Similarity
 (VPF).
 PS00249; PDGF 1; 1.
PS50278; PDGF 2; 1.
Angiogenesis; Growth factor; Glycoprotein;
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Hystricognathi; Caviidae; Cavia.
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 mitogen."
 SEQUENCE FROM N.A., AND SEQUENCE MEDLINE=90069608; PubMed=2479986;
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 the Buropean Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for commodified and this statement is not removed.
 -i- SUBUNIT: Homodimer; disulfide-linked. Also with PIGF (By similarity)
-i- SUBCELULAR LOCATION: Secreted but remains to the extracellular matrix unless released
SEQUENCE OF 27-31
 Biochem.
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 Lau K., Crisp T., Fide
"Vascular endothelial
 Tischer
 MEDLINE=90121225; PubMed=2610687;
 Leung D.W., Cachianes
"Vascular endothelial
 NCBI_TaxID=9913;
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 P15691;
 or send an email to license@isb-sib.ch).
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 SEQUENCE OF 27-190 FROM N.A.
 Science
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 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
 SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
 BOVIN
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 E., Gospodarowicz D., Mitchell Crisp T., Fiddes J.C., Abraham ar endothelial growth factor: a growth factor gene family.";
 246:1306-1309(1989).
 Similarity
 EESNITMQIMRIKPH 16
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 Biophys.
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28-FEB-2003 (Rel. 41, Created)
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 PROSITE; PS00249; PDGF 1; 1.

PROSITE; PS50278; PDGF 2; 1.

Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal; Heparin-binding; Alternative splicing; Multigene family.

SIGNAL 1 26
 EMBL; M31836; AAA30804.1; -.
EMBL; M33750; AAA30805.1; -.
PIR; B40080; B40080.
HSSP; P15692; 1VGH.
 Perrara N., Henzel W.J.;

"Pituitary follicular cells secrete a novel heparin-binding factor specific for vascular endothelial cells.";

Biochem. Biophys. Res. Commun. 161:851-858(1989);

-!- FUNCTION: Growth factor active in angiogenesis, vasculog
 SEQUENCE
 VARSPLIC
 InterPro; IPR000072; PD_growth_factor.
pfam; pF00341; PDGF; 1.
proDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1:
 EMBL; M32976; AAA30502.1; -.
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or send an email to license@isb-sib.ch).
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 IsoId=P15691-2; Sequence=VSP_004613, VSP_004614; SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 SUBCELLULAR LOCATION: Secreted but to the extracellular matrix unless
 heparin (By similarity). SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 FUNCTION: Growth factor active in angiogenesis, vasculogenesis endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 Name=Beta;
 with PIGF (By similarity).
 Event=Alternative
 ALTERNATIVE PRODUCTS:
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 IsoId=P15691-1; Sequence=Displayed;
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 28-FEB-2003 (Rel. 41, Last sequence update) 15-SEP-2003 (Rel. 42, Last annotation updat Vascular endothelial growth factor A precur permeability factor) (VPP).
 Heparin-binding; Multigene SIGNAL 1 26
 PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Angiogenesis; Growth factor; Glycoprotein;
 "Expression of vascular endothelial growth fact receptors during embryonic implantation in the
 CHAIN
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
 InterPro; IPR000072;
Pfam; PF00341; PDGF;
 EMBL; AF063013; AAK00049.1; HSSP; P15692; 1VGH.
 TISSUE-Decidua, and Embryo;
MEDLINE-99311285; PubMed-10382276;
Yi X.J., Jiang H.Y., Lee K.K., Tang P.L.,
"Expression of vascular endothelial growt
 SEQUENCE FROM N.A.
 NCBI_TaxID=10036;
 Mesocricetus.
 Eukaryota; Metazoa;
Mammalia; Eutheria;
 Mesocricetus auratus
 (Mesocricetus auratus).";
Cell Tissue Res. 296:339-349(1999).
 FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 with PIGF (By similarity).
SUBCELLULAR LOCATION: Secreted but remains associated to to the extracellular matrix unless released by heparin (
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SUBUNIT: Homodimer; disulfide-linked.
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 Mitogen;
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SMART; SM00141; PDGF; 1.
 EMBL; AF318502; AAG33064.1; PIR; S52130; S52130.
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 Sharma H.S., Tang Z.H., Gho B.C.H., "Nucleotide sequence and expression endothelial growth factor.";
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 NCBI_TaxID=9823;
 Eukaryota; Metazoa;
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 Pfam; PF00341; PDGF;
 InterPro, IPR000072; PD_growth_factor
 SSUE=Heart;
 heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also
with PIGF (By similarity).
SUBCELLULAR LOCATION: Secreted but remains
to the extracellular matrix unless released
 FUNCTION: Growth factor active in angiogenesis, vascule endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apopte induces permeabilization of blood vessels. It binds to VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan su
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T., Canty J.M.;
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 Similarity
 PS00249; PDGF_1; 1.
PS50278; PDGF_2; 1.
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 Angiogenesis; Growth
 Biophys. Acta 1260:235-238(1995).
 (NOV-2000)
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 Bioinformatics Institute.
 PubMed=7841203;
Z.H., Gho B.C.H.,
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28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPF).
VEGF OR VEGFA.
 CANFA
 MEDLINE=20125516; PubMed=10661874;
Scheidegger P., Weiglhofer W., Suarez S.,
Ballmer-Hofer K., Jaussi R.;
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 Biol.
 Submitted (MAR-1999)
 SEQUENCE FROM N.A.
 NCBI_TaxID=9615;
 Mammalia; Eutheria; Carnivora;
 Eukaryota; Metazoa;
 Canis familiaris (Dog)
 SEQUENCE FROM N.A.
 "Vascular endothelial
 SSUE=Heart;
 mitted (MAR-1999) to the EMBL/GenBank/DDBJ databases. FUNCTION: Growth factor active in angiogenesis, vasculogenes endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate
 Event=Alternative splicing; Named isoforms=3;
Comment=Additional isoforms seem to exist;
Name=VEGF-188;
 heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked.
Name=VEGF-182;
 ALTERNATIVE PRODUCTS:
 איטאיטאוער LOCATION: Secreted but remains associated to the extracellular matrix unless released by heparing administration of the contraction of
 with PIGF (By similarity).
 IsoId=Q9MYV3-1;
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ProDom; PD001629; PD\_growth\_factor; 1.
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PROSITE; PS00249; PDGF\_1; 1.
PROSITE; PS50278; PDGF\_2; 1.
Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal; the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/ EMBL; AJ133758; CAB82426.1; -EMBL; AF133250; AAD29684.1; -EMBL; AF133249; AAD29683.1; -EMBL; AF133248; AAD29682.1; -EMBL; P15692; IVGH. InterPro; IPR000072; PD\_growth\_factor.
Pfam; PF00341; PDGF; 1. or send an email to license@isb-sib.ch). This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation

-!- SIMILARITY: BELONGS

IBOId=Q9MYV3-3;

Sequence=VSP 004615, VSP 004616; GS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

IsoId=Q9MYV3-2; Name=VEGF-164;

Sequence=VSP\_004617

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DISULFID 82
DISULFID 86
DISULFID 76
DISULFID 85
CARBOHYD 100
VARSPLIC 140
 CONFLICT
 MEDIINE-95221439; PubMed-7706320;

DiSalvo J., Bayne M.L., Conn.G., Kwok P.W., Trivedi P.G.,

Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.;

"Purification and characterization of a naturally occurring vascular

"purification and characterization of a naturally occurring vascular

endothelial growth factor.placenta growth factor heterodimer.";

J. Biol. Chem. 270:7717-7723(195).

-I- FUNCTION: Growth factor active in angiogenesis, vasculogenesis a

endothelial cell growth. It induces endothelial cell

proliferation, promotes cell migration, inhibits apoptosis, and
induces permeabilization of blood vessels. It binds to the

VEGFRI/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and
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01-AUG-1990 (Rel. 15, Created)
28-FEB-2003 (Rel. 41, Last squence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precurso;
permeability factor) (VPF).
 MEDLINE=90207249; PubMed=2320579; Conn G., Bayne M.L., Soderman D.D., Palisi T.M., Hope D.A., Thomas K.A.;
 VEGA_
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 SEQUENCE OF 27-40
 Submitted
 (VEGF-A) splicing variants, VEGF-A188, masseter muscle.";
 VEGF-A120).
Ishii H., Arakawa T.,
 SEQUENCE FROM N.A. (ISOFORMS VEGF-A188; VEGF-A164; VEGF-A144 AND
 "Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is homologous to platelet-derived growth factor."; Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
 CONFLICT
 ISSUE=Glial tumor;
 SEQUENCE FROM N.A. (ISOFORM VEGF-A164), AND SEQUENCE OF 27-190
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 Eukaryota; Metazoa;
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 EESNITMQIMRIKPH
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 ; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus
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 expression of vascular
 STANDARD;
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SIGNAL
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 CHAIN
 EMBL; M32167; AAA41211.1; --
EMBL; AP215725; AAF19211.1; --
EMBL; AP215726; AAF19212.1; --
EMBL; AF222779; AAF25958.1; --
EMBL; AF222779; DAF25958.1; --
EMBL; AF25958.1; --
EMBL; AF25958.
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 VARSPLIC
 VARSPLIC
 DISULFID
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
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 VARSPLIC
 PROSITE; PS00249; PDGF
PROSITE; PS50278; PDGF
 VARSPLIC
 Pfam; PF00341; PDGF;
 interPro;
 ISOId=P16612-4; Sequence=VSP 004631;
TISSUE SPECIFICITY: Expressed in the pituitary, in brain, in particularly in supraoptic and paraventricular nuclei and the choroid plexus. Also found abundantly in the corpus luteum of ovary and in kidney glomeruli.
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
 SUBUNIT: Homodimer; disulfide-linked. Also found with PiGF (By similarity). vEGF-A120 is acidic and fre VEGF-A164 is more basic, has heparin-binding prop
 IsoId=P16612-1; Sequence=Displayed;
Name=VEGF-A164;
 extracellular matrix, although it may be released as a form by heparin, heparinase or plasmin (By similarity). ALTERNATIVE PRODUCTS:
Event-Alternative splicing; Named isoforms=4;
 VEGF-A164 is more basic, has heparin-binding properties and, although a signicant proportion remains cell-associated, most if freely secreted. VEGF-A188 is very basic; it is cell-associated after secretion and is bound avidly by heparin and the
 Name=VEGF-A120;
 Name=VEGF-A144;
 Name=VEGF-A188;
 l Similarity
13; Conser
 IsoId=P16612-3; Sequence=VSP_004632;
 IsoId=P16612-2; Sequence=VSP_004629,
 Comment=Additional isoforms
 Anglogeneels; Growth factor; Glycoprotein; Anglogeneels; Growth factor; Multigene far
 IPR000072; PD_growth_factor.
 214 AA;
 Conservative
 101
 165
 141
 141
 101
25239
 208
 164
 208
 140
 82.6%;
92.9%;
 ₹
..
 Missing (in isoform /FTId=VSP 004632. V -> A (IN REF 2; F 60FBB876F5304946 C
 Pred. No. 4.60
1; Mismatches
 Score 71; DB
Pred. No. 4.66
 /FTId=VSP 004629.
Missing (In isoform VEGF-A164)
 VASCULAR ENDOTHELIAL GROWTH FACTOR BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
 INTERCHAIN (BY INTERCHAIN (BY
 N-LINKED (GLCNAC
 FTId=VSP_004630.
 N (in isoform VEGF-A164).
 seem
 ö
 .6e-06;
0;
 exist;
 VSP_004630,
 SIMILARITY).
 released as a soluble
 Length 214;
 AAF19212).
CRC64;
 family.
 Indels
 freely
 Signal;
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 heterodimer
 secreted.
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 Gaps
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RESULT 11
VEGA_CHICK
ID VEGA_CHICK
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 S
 RESULT 10
VEGA_HORSE
 Query Match
Best Local
 Matches
 DISULFID
DISULFID
DISULFID
 This
 Miura N., Misumi K., Kawahara K., Nakashima M., Fukumitsu S., Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.; "Cloning of cDNA and high-level expression of equine vascular endotherial growth factor (VEGF)."; submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases. Submitted (JAN-2001) to the EMBL/GenBank/DDBJ and endothelial -i- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth. Induces endothelial proliferation and vascular
 28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPF).
 SEQUENCE
 CARBOHYD
 CHAIN
 ProDom; PD001629; PD growth factor; 1.
SMART; SM00141; PDGF; 1.
 EMBL; AB053350; BAB20890.1; HSSP; P15692; 1VGH.
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 between
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
 Equus caballus (Horse)
 Q9GKRO;
28-FEB-2003
 DISULFID
 DISULFID
 SIGNAL
 Mitogen;
 PROSITE;
 Pfam; PF00341; PDGF;
 SEQUENCE FROM N.A.
 NCBI_TaxID=9796;
 VEGF OR VEGFA.
 PROSITE;
 [nterPro; IPR000072; PD_growth_factor.
 s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way
 with PIGF (By similarity). SUBCELLULAR LOCATION: Secreted but
 permeability (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 to the extracellular matrix unless
 HORSE
 98
 w
 Similarity
 900141; ruc.,
PS00249; PDGF_1; 1.
PS50278; PDGF_2; 1.
PS50278; PDGF_2; 1.
 EFNITMQIMRIKPH
 ESNITMQIMRIKPH
 1
27
51
82
86
86
76
85
100
 (Rel.
 Conservative
 AA.
 STANDARD;
 190
190
93
127
129
129
100
 76.7%;
92.9%;
 Created)
 111
 16
 ME.
 0;
 VASCULAR ENDOTHELIAL OF SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
 Score 66; DB
Pred. No. 3.6e
0; Mismatches
 INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POT
 PRT;
 87E9E161439E5F87 CRC64;
 216
 190
 remains associated to cells released by heparin (By
 DB 1;
 B
 ጅ
 .6e-05;
 Length 190;
 (VEGF-A) (Vascular
 .) (POTENTIAL)
 GROWTH FACTOR A.
 Signal;
 Euteleostomi;
 <u>.</u>.
 Gaps
 0
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15-JUL-1998 (Rel. 34, Created)
15-SEP-2003 (Rel. 36, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precursor
permeability factor) (VPF).
VEGF OR VEGFA.
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the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
 Flamme I., von Reutern M., Drexler H.C., Syed-Ali S., Risau W.; "Overexpression of vascular endothelial growth factor in the avenbryo induces hypervascularization and increased vascular permeability without alterations of embryonic pattern formation
 Flamme I., Breier G., Risau W.;
"Vascular endothelial growth factor (VEGF) and (flk-1) are expressed during vasculogenesis and differentiation in the quail embryo.";
Dev. Biol. 169:699-712(1995).
 SEQUENCE FROM N.A. (ISOFORMS VEGE
SPECIES=C.c.japonica; TISSUE=Embr
MEDLINE=96005007; PubMed=7556923;
 Eukaryota; Metazoa; Chordata; (
Archosauria; Aves; Neognathae;
 SPECIES=C.c.japonica;
MEDLINE=95301109; Pub
 SEQUENCE OF 60-187 FROM N.A.
 Takahashi T.;
"Chick embryonic ventricular myocytes VEGF.";
 SPECIES=Chicken;
 SEQUENCE
 Coturnix coturnix japonica (Ja
Eukaryota; Metazoa; Chordata;
 Gallus gallus (Chicken),
 Dev. Biol. 171:399-414(1995)
 Submitted (FEB-1998) to
 NCBI_TaxID=9031,
 ISOId=P52582-3; Sequence=VSP_004635, VSP_004636;
Note=Has been shown to exist only in qually so far;
TISSUE SPECIFICITY: Abundantly and equally expressed in h
liver. In kidney glomeruli, brain and yolk sac, VEGF-166
10-times more abundant than VEGF-190
DEVELOPMENTAL STAGE: VEGF-166 is expressed early at day 1
upgraded during gastrulation. Expression of VEGF-190 is d
only from day 2.

DOMAIN: VEGF-190 contains a basic insert which acts as a
 PUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).

SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with plgF (By similarity).
 retention signal.
SIMILARITY: BELONGS
 Name=VEGF-146;
 Name=VEGF-166;
 Name=VEGF-190;
 Event-Alternative splicing; Named isoforms=3; Comment-Additional isoforms seem to exist;
 Note=Has been shown
 IsoId=P52582-2;
 IsoId=P52582-1;
 FROM N.A.
 TISSUE=Heart;
 93934;
 PubMed=7781909;
 (ISOFORMS VEGF-190; ca; TISSUE=Embryo;
 Sequence=VSP_004633, VSP_004634; hown to exist only in quail so fa
 Sequence=Displayed;
 TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 the EMBL/GenBank/DDBJ databases
 and
 (Japanese
 (ISOFORMS
 apanese quail).
Craniata; Vertebrata; Euteleostomi;
; Galliformes; Phasianidae; Phasianinae;
 VEGF-190
 VEGF-166 AND VEGF-146)
 and
 pattern formation.";
 VEGF receptor
 (VEGF-A) (Vascular
 AND
 vascular
 VEGF-166)
 in heart
 a collaboration
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 RESULT 12
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Matches
SEQUENCE FROM N.A.

STRAIN=NIH Swiss;

MEDLINE-98065381; PubMed-9401819;

Archen M.G., Gad J.M., Stacker S.A., Wilks A.F.;

"Placenta growth factor and vascular endothelial growth factor are co-expressed during early embryonic development.";

Growth Factors 15:69-80(1997).

-!- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth, stimulating their proliferation and migration. It binds to receptor VEGFR-1/FIT1 (By similarity).
 PLGF_N
 CHAIN
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
CARBOHYD
 ProDom; PD001629; PD growth factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF_1; 1.
 Dipalma T., Tucci M., Russo G., Maglione D., Saccone S., della Valle G., de Gregorio L., Viglietto G., Persico M.G.;
"The placenta growth factor gene of the mous
 Eukaryota; Metazoa;
Mammalia; Eutheria;
 01-OCT-1996
28-FEB-2003
 01-OCT-1996
 SEQUENCE
 VARSPLIC
 VARSPLIC
 Heparin-binding; Alternative SIGNAL 1 26
 EMBL; AB011078; BAA24925.1;
EMBL; S79680; AAB35371.1; -
HSSP; P15692; IVGH.
 Placenta growth factor precursor PGF OR PLGF.
 P49764;
 VARSPLIC
 VARSPLIC
 Mitogen;
 Pfam; PF00341; PDGF;
 MEDLINE=97059399; PubMed=8903720;
 PROSITE;
 NCBI_TaxID=10090;
 InterPro;
 EQUENCE FROM N.A.
 musculus (Mouse).
 MOUSE
 101
 M00141; PUGF; ...
PS00249; PDGF 1; 1.
PS50278; PDGF 2; 1.
Angiogenesis; Growth factor; Glycoprotein; Signal; Angiogenesis; Growth factor; Multigene family.
BY SIMILARITY:
BY SIMILARITY:
BY SIMILARITY:
 Similarity
9; Conser
 NVTMEIARIKPH 112
 NITMQIMRIKPH 16
 IPR000072; PD_growth_factor.
 216
 (Rel. 34, Created)
(Rel. 34, Last sequence update)
(Rel. 41, Last annotation updat
 167
 166
 Conservative
 143
 1
27
52
83
87
77
77
101
142
 7:6-12(1996)
 AA,
 STANDARD;
 26
216
94
128
130
130
77
86
101
 Chordata;
Rodentia;
 210
 166
 166
 25203
 61.6%;
 ¥.
 2
 Score 53; DB 1;
Pred. No. 0.012;
2; Mismatches
 N-LINKED (GLCNAC. . K -> N (in isoform)
 Missing
 INTERCHAIN (BY
 BY SIMILARITY
 VASCULAR ENDOTHELIAL GROWTH FACTOR BY SIMILARITY.
 /FTId=VSP
 /FTId=VSP_004633.
Missing (in isoform VEGF-166)
 Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus.
 FTId=VSP_004636.
82E669C2F6FC6DA7
 SIMILARITY
 (P1GF).
 N (in isoform VEGF-166).
 158
 (In isoform VEGF-146)
 update)
 mouse.";
 A
 , Lago C.T., Romano
Dragani T.A.,
 SIMILARITY).
 Length 216;
 CRC64;
 .) (POTENTIAL).
 Indels
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 Α.
 Gaps
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RESULT 13
PLGF_RAT
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 Query Match
Best Local S
Matches
 SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.

MEDLINE=55221439; PubMed=7706320;

A DISALVO J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G.,

Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.;

"Purification and characterization of a naturally occurri

endothelial growth factor.placenta growth factor heterodi

J. Biol. Chem. 270:7717-7723 (1995).

C -!- FUNCTION: Growth factor active in angiogenesis, and e

cell growth, stimulating their proliferation and migr

C binds to receptor VEGFR-I/FUTI (By similarity).

C SUBUNIT: Antiparallel homodimer; disulfide-linked. Al

heterodimer with VEGF/VEGF-A.
 PLGF RAT
Q63434;
Q63434;
28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
15-SEP-2003 (Rel. 42, Dast annotation update)
 CHAIN
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
SEQUENCE
 SMART; SMUULL, ... PDGF 1; 1. PROSITE; PS00249; PDGF 2; 1. PROSITE; PS50278; PDGF 2; 1.
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 NCBI_TaxID=10116;
 Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
 Anglogenesis;
SIGNAL
 EMBL; X80171; CAA56453.1; -. EMBL; X96793; CAA65587.1; -. HSSP; P49763; 1FZV.
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 ProDom;
 Pfam; PF00341; PDGF;

 -1- SUBCELLULAR LOCATION: Secreted (By similarity).
 -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS

 MGD; MGI:105095; Pgf.
 nterPro; IPR000072; PD_growth_factor.
 SUBCELLULAR LOCATION: Secreted (By similarity). SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
 heterodimer with VEGF/VEGF-A (By similarity)
 96
 4
 Similarity
8; Conserv
 PD001629;
 ANITMOILKIPPN 108
 SNITMQIMRIKPH 16
 52.3%;
nilarity 61.5%;
Conservative
 158
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 AA;
 PD_growth_factor; 1.
 18
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 17876 MW;
 INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
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N-LINKED (GLCNAC...) (POTEN
N-LINKED (GLCNAC...) (POTEN
N-LINKED (GLCNAC...) (POTEN
 Th factor; Glycoprotein; Signal.
BY SIMILARITY,
PLACENTA GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
 Score 45; DB
Pred. No. 0.29
4; Mismatches
 Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Rattus
 DB 1;
0.29;
 , Thomas K.A.; aturally occurring vas factor heterodimer.";
 Length 158;
 Indels
 (POTENTIAL)
 and endothelial
 (POTENTIAL)
 migration.
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use Buropean Bioinformatics Institute. There are no restrictions used by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for come entities requires a license agreement (See http://www.isb-sib.ch/an or send an email to license@isb-sib.ch
 30-MAY-2000
28-FEB-2003
 DISULFID
CARBOHYD
CARBOHYD
CARBOHYD
SEQUENCE
 Angiogenesis;
SIGNAL
CHAIN
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 Ogihara T
Onishi Y.
 HUMAN
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 PROSITE;
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 Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
 between
 -
 "14-3-3 protein binds to insulin rec
binding sites of which is in the pho
J. Biol. Chem. 272:25267-25274(1997)
-!- FUNCTION: MAY MEDIATE THE CONTRO
 Oka Y.,
 MEDLINE=97460123;
 Q9Y4H2;
30-may-2000
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
 Pfam; PF00341; PDGF; 1
 EMBL; L40030; AAA97426.1; -. PIR; A56125; A56125.
 entities requires a license agreement (S or send an email to license@isb-sib.ch).
 NCBI_TaxID=9606;
 HSSP;
 Insulin receptor
 InterPro;
 EQUENCE FROM N.A.
 s SWISS-PROT entry is copyright. It is produced through ween the Swiss Institute of Bioinformatics and the Elevopean Bioinformatics Institute. There are no rest
 SIMILARITY: Contains 1 PH of SIMILARITY: Contains 1 PTB
 BY INSULIN.
 HUMAN
 P49763; 1FZV
 96
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 =97460123; PubMed=9312143;
T., Isobe T., Ichimura T.
Y., Inukai K., Anai M., Ful
 Asano T.;
 Similarity
8; Conser
 PS00249; PDGF_1; 1.
PS50278; PDGF_2; 1.
esis; Mitogen; Growth
 ANITMQILKIPPN
 SNITMQIMRIKPH
 IPR000072; PD_growth_factor
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(Rel. 41, Last amnotation update)
ptor substrate-2 (IRS-2).
 Conservative
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 Ichimura T., Taoka
Anai M., Fukushima
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 insulin receptor substrate-1, on s in the phosphotyrosine binding
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INTERCHAIN (BY SIMILARITY).

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B4771373A82E15B9 (
 Score 45;
Pred. No.
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4; Mismatches
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 OR 26.
PLACENTA GROWTH
BY SIMILARITY.
 CONTROL
 Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
 domain.
 factor;
 PRT;
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 1324 AA
 OF VARIOUS CELLULAR PROCESSES
 Glycoprotein; Signal.
 (See http://www.isb-sib.ch/announce/
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 DB 1;
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 Funaki M., S
Kikuchi M.,
 FACTOR
 Length 158;
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DT 01-OCT-1996 |
DT 15-SEP-2003
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Matches
 01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Putative dolichyl-diphosphooligosaccharide--protein
glycosyltransferase alpha subunit precursor (EC 2.4.1.119)
 DOMAIN
DOMAIN
DOMAIN
 DOMAIN
DOMAIN
 DOMAIN
DOMAIN
 MOD_RES
 SMART;
 MIM; 600797; -.
GO; GO:0004871; F:signal transducer activity; TAS.
GO; GO:0006006; P:glucose metabolism; TAS.
GO; GO:0007165; P:signal transduction; TAS.
InterPro; IPR002404; Insln_receptorS1.
InterPro; IPR001849; PH.
 SPAC27F1.07
 SEQUENCE
 MOD_RES
 Pfam; PF02174; IRS; 1. Pfam; PF00169; PH; 1. PRINTS; PR00628; INSUL
 SEQUENCE FROM N.A
 Schizosaccharomycetales;
Schizosaccharomyces.
 Eukaryota; Fungi; Ascomycota;
 Schizosaccharomyces pombe
 MOD_RES
 MOD_RES
 MOD_RES
 Phosphorylation;
 Genew; HGNC:6126; IRS2
 EMBL; AB000732; BAA24500.1;
HSSP; P35568; 1IRS.
 NCBI_TaxID=4896;
 (Oligosaccharyl transferase alpha
 VARIANT
 DOMAIN
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 DOMAIN
 PROSITE;
 233
 SM00310:
 SM00233; PH; 1.
SM00310; PTBI;
 Similarity 6; Conserv
 CEOPSVILOLMNIR 246
 CEESNITMQIMRIK 14
 PS50003;
 1324
 460
533
642
694
944
1031
1265
1057
 1253
 978
 919
 675
 653
 Conservative
 STANDARD;
 AA; 136482
 Polymorphism
 INSULINRSI.
 1253
 PH DOMAIN:
 28
380
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467
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537
645
701
947
1038
 540
 978
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42.9%;
 Schizosaccharomycetaceae,
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 PHOSPHORYLATION
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PHOSPHORYLATION
SIMILARITY).
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 POLY-PRO.
POLY-GLY.
POLY-SER.
POLY-ALA.
POLY-SER.
 POLY-PRO.
G -> D (IN dbSNP:1805097).
/FTId=VAR_014857.
MW; 3D7B4ĀB2AEE45104 CRC64;
 Score 44; I
Pred. No. 4.
 POLY-PRO
 POLY-SER.
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 PHOSPHORYLATION
 PHOSPHORYLATION SIMILARITY).
 PHOSPHORYLATION SIMILARITY).
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Gwilliam R.,

Rajandream M.A.,

Lyne M., Lyne R.,

Stewart A.

MEDLINE=21848401; PubMed=11859360;

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 RA SGOURD J., Peat N., Hayles J., Baker S., Basham D., Bowman S.,
RA Brooks K., Brown D., Brown S., Chillingworth T., Churcher C.M.,
RA Brooks K., Brown D., Brown S., Chillingworth T., Churcher C.M.,
RA Collins M., Connor R., Cronin A., Davis P., Feltwell T., Fraser A.,
RA Gentles S., Goble A., Hamlin N., Harris D., Hidalgo J., Hodgson G.,
RA Holroyd S., Hornsby T., Howarth S., Huckle E.J., Hunt S., Jagels K.,
RA Holroyd S., Hornsby T., Howarth S., McDonald S., McLean J.,
RA Holroyd S., Hornsby T., Howarth S., Huckle E.J., Hunt S., Jagels K.,
RA Gentles S., Goble A., Hamlin N., Harris D., Hidalgo J., Hodgson G.,
RA Holroyd S., Hornsby T., Howarth S., McDonald S., McLean J.,
RA Holroyd S., Hornsby T., Howarth S., McDonald S., McLean J.,
RA Goliver K., O'Neil S., Pearson D., Quail M.A., Rabbinowitsch E.,
RA Rutherford K., Rutter S., Saunders D., Seeger K., Sharp S.,
RA Rutherford K., Rutter S., Squares S., Stevens K.,
RA Raylor K., Taylor R.G., Tivey A., Walsh S.V., Warren T., Whitehead S.,
RA Weltjens I., Vanstreels E., Rieger M., Schaefer M., Mueller-Auer S.,
RA Weltjens I., Vanstreels E., Rieger M., Schaefer M., Mueller-Auer S.,
RA Gabel C., Fuchs M., Fritzc C., Holzer E., Moestl D., Hilbert H.,
RA Borzym K., Langer I., Beck A., Lehrach H., Reinhardt R., Pohl T.M.,
RA Eger P., Zimmermann W., Wedler H., Wambutt R., Purnelle B.,
RA Goffeau A., Cadieu E., Dreano S., Gloux S., Lelaure V., Mottier S.,
RA Galibert F., Aves S.J., Xiang Z., Hunt C., Moore K., Hurst S.M.,
RA Lucas M., Rochet M., Gaillardin C., Tallada V.A., Garzon A., Thode G.,
RA Dominguez A., Revuelta J.L., Moreno S., Armstrong J., Forsburg S.L.,
RA Cruttit L., Lowe T., McCombie W.R., Paulsen I., Potashkin J.,
RA Crutte 415:871-80(2002)

"The genome sequence of Schizosaccharomyces pombe.";
RT Nature 415:871-80(2002)
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 between the Swiss Institute of Bioinformatics the European Bioinformatics Institute. These use by non-profit institutions as long a modified and this statement is not removed. entities requires a license agreement (See) or send an email to license@isb-sib.ch).
 SEQUENCE
 SIGNAL
 GeneDB SPombe; SPAC27F1.07; -. Pfam; PF04597; Ribophorin_I; 1. Hypothetical protein; Transferase;
 EMBL; Z69368; CAA93296.1; -. PIR; T38465; T38465.
 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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 ransmembrane;
 L-asparagine.
PATHWAY: Glycosylation.
SUBCELLULAR LOCATION: Type I membrane protein. Endoplasmic
 nascent polypeptide chains.

CATALYTIC ACTIVITY: Dolichyl diphosphooligosaccharide + protein L-asparagine = dolichyl diphosphate + a glycoprotein with the alparagine chain attached by glycosylamine linkage to protein
 SIMILARITY: TO MAMMALIAN RIBOPHORIN I AND YEAST OST1.
 FUNCTION: Essential subunit of N-oligosaccharyl transferase enzyme which catalyzes the transfer of a high mannose oligosaccharide to an asparagine residue within an Asn-X-Ser/Thr consensus motif in
 reticulum (By similarity)
 Similarity
8; Conserv
EESNITMQIMRIKPH
 19
425
445
290
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383
405
422
450 AA;
 Conservative
 Glycoprotein;
 450
 50.0%;
 51683 MW;
 16
 Score 43; DB
Pred. No. 2.1;
2; Mismatches
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DIPHOSPHOOLIGOSACCHARIDE--PROTEIN
GLYCOSYLTRANSFERASE ALPHA SUBUNIT.
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 8
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2: sp_batteria
3: sp_fungi:*
4: sp_inverteb:
5: sp_mammal:*
7: sp_mac:*
8: sp_organell:
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11: sp_virus:*
12: sp_virus:*
13: sp_verteb:*
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1 CEESNITMQIMRIK
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| ω.         | 8      | 8      | 48.8   | •      | •      | 48.8   | •      | •      | •      | •                  | •      | 51.2   | 51.2               | 52.3       | 53.5   | •      |           | •         | 53.5   | •      | 69.8   | 76.7               | 76.7   | •                  | •                  | 82.6               | •                 | 82.6               |
| 721        | 671    | 599    | 472    | 188    | 144    | 132    | 611    | 1339   | 1338   | 1338               | 1338   | 1337   | 300                | 1788       | 1011   | 811    | 599       | 599       | 206    | 194    | 148    | 128                | 127    | 75                 | 68                 | 190                | 190               | 189                |
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| Q8EUE7     | Q9SS49 | Q8BEP6 | Q9LDJ9 | 073682 | 073822 | Q9YMF3 | Q65855 | Q96RG5 | Q96RG4 | Q9BZG0             | Q9Y6I5 | Q96RR2 | Q21187             | Q8IG61     | Q24273 | Q9VNP2 | 039854    | 071211    | 056881 | 042572 | 042571 | Q8SPL5             | Q8WMQ4 | 018843             | 097500             | Q91ZE1             | 077643            | Q95LQ4             |
| mycoplasma |        |        |        |        | bra    |        | 5 bee  | homo   | homo   | Q9bzg0 homo sapien | homo   | homo   | Q21187 caenorhabdi | caenorhabd |        | a.     | grapevine | grapevine |        |        |        | Q8spl5 equus cabal |        | O18843 oryctolagus | 097500 oryctolagus | Q91zel rattus norv | 077643 ovis aries | Q95lq4 felis silve |

## ALIGNMENTS

| P 8                                                           | Quer<br>Best<br>Matc                                                                                                                                             | Č                                                | ) H | 뛿                            | DR S                     | 3 5                      | į | 묽                           | RL                                                       | RT | R                                                                   | RT                | ŖΑ                                                   | RC                    | ŖΡ                 | RN | Š                | გ                         | გ | გ                                                                 | S | DE             | ij | ij | ij                                   | AC      | ID                              | RESULT<br>Q8MINO |
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| 2 EESNITMQIMRIKPH 16<br>            <br>16 EESNITMQIMRIKPH 30 | Query Match 89.5%; Score 77; DB 6; Length 65;<br>Best Local Similarity 100.0%; Pred. No. 5.3e-07;<br>Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0; | SEQUENCE OD AA; /302 MW; BASESJ04304BUSES CRC04; |     | PROSITE; PS50278; PDGF_2; 1. | SMART; SM00141; PDGF; 1. | Trail; rr00341; rbgr; 1: |   | EMBL; AY114353; AAM76674.1; | Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases. |    | and Its Receptors during the Development and Maintenance of Caprine | ding Vascular End | Kawate N., Tsuji M., Tamada H., Inaba T., Sawada T.; | TISSUE=Corpus luteum; | SEQUENCE FROM N.A. |    | NCBI TaxID=9925; | Bovidae; Caprinae; Capra. | n | Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; |   | thelial growth |    |    | 01-OCT-2002 (TremBLrel. 22, Created) | Q8MINO; | Q8MINO PRELIMINARY; PRT; 65 AA. | 77 1             |

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 01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-WAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor (Fragment).
 Kawate N., Tsuji M., Tamada H., Inaba T., Sawada "Changes of Messenger RNAs Encoding Vascular Endo and Its Receptors during the Development and Mair
 SMART;
 InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
 Hazzard T.M., Nayak N.R., Jia Y., Stouffer R.L.; "Rhesus macaque VEGF mRNA sequence."; Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases. EMBL; AF339737; AAK26379.1; -. HSSP; P49763; 1FZV.
 NCBI
 Cercopithecinae; Macaca.
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
 Macaca mulatta (Rhesus macaque)
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
 InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
 Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases EMBL; AY114352; AAM76673.1; -
 TISSUE-Corpus
 NCBI_TaxID=9925;
 Capra hircus (Goat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Capra.
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 Liu J., Peng X., Yuan J., Qiang B.;
"Clonding of vascular endothelial growth factor (VEGF) cDNA.";
Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.

EMBL; AY047581; AAK95847.1; -
InterPro; IPR000072; PD_growth_factor.

Pfam; PF00341; PDGF; 1.

ProDom; PD001629; PD growth_factor; 1.

PROSITE; P500249; PDGF 1; 1.

PROSITE; P500249; PDGF 2; 1.

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SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
SEQUENCE 191 AA; 22758 MW; D25243E
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 Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 regulated in renal tumors.";
(In) Unknown A. (eds.);
Proceedings of the 7th World Congress on
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 Vascular endothelial growth Homo sapiens (Human)
 Sydney, Australia (2001).
EMBL; AF430806; AAL27435.1; -.
InterPro; IPR000072; PD_growth
Pfam; PF00341; PDGF; 1.
 Sugiono M., Winkler M., Gillatt D., Harper S.J., Bates D.("A new isoform of vascular endothelial growth factor mRNA
 TISSUE=Kidney;
 SEQUENCE FROM N.A.
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 SEQUENCE FROM N.A.
 NCBI_TaxID=9606;
 NCBI_TaxID=9606;
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 MEDLINE=99313148; PubMed=10386577;
Avivi A., Resnick M.B., Nevo E., Joel A., Levy A.P.;
"Adaptive hypoxic tolerance in the subterranean mole ehrenbergi: the role of vascular endothelial growth f FEBS Lett. 452:133-140(1999).
EMBL; AF186236; AAD56245.1; -.
HSSP; P49763; 1FZV.
InterPro; IPR000072; PD growth factor.
Pfam; PF00341; PDGF; 1.
 Q95NE5;
 Spalax leucodon ehrenbergi (Ehrenberg's mole rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
 MEDLINE=96245208; PubMed=8641836; Shima D.T., Gougos A., Miller J.W., Tolentino M., Rob Shima D.T., Gougos A., Miller J.W., Tolentino M., Rob Adamis A.P., D'Amore P.A.; Cloning and mRNA expression of vascular endothelial ischemic retinas of Macaca fascicularis."; Invest. Ophthalmol. Vis. Sci. 37:1334-1340(1996).
 ProDom; PD001629; PD growth factor; SMART; SM00141; PDGF; 1.
 Vascular endothelial growth VEGF.
 01-MAY-2000
01-MAR-2003
 01-MAY-2000
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Pfam; PF00341; PDGF; 1.
ProDom; PD001629; PD growth_factor; 1.
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 Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
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 MEDLINE=20532861; PubMed=11078967; Wagener A., Blottner S., Goritz F., "Detection of growth factors in the capreolus).";
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SEQUENCE
 Ovis aries (Sheep).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;

Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pec

Bovidae; Caprinae; Ovis.

NCBI_TaxID=9940;
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01-MAR-2003 (TrEMBLrel. 23,
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SEQUENCE FROM N.A.
TISSUE=Placental artery endothelium;
 NCBI_TaxID=9858;
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 3 ESNITMQIMRIKPH 16
 Similarity
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 PS50278; PDGF_2; 1.
190 AA; 22488 MW;
 PS00249; PDGF_1; 1.
PS50278; PDGF_2; 1.
 EESNITMQIMRIKPH
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 ESNITMQIMRIKPH 111
 78
 PRELIMINARY;
 Conservative
 PRELIMINARY;
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 78
8 AA;
 21. 64:65-75(2000).
AAF73232:1; -.
 9131 MW;
 83.7%;
 82.6%;
93.3%;
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factor isoform 121 (Fragment).
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Last annotation update)
factor 182 isoform (Fragment).
 Score 72;
Pred. No.
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 Score 71; DB 6;
Pred. No. 8.8e-06;
 7EE20DDFFC17847C CRC64;
 PRT;
 2228383BC65F0BFE CRC64;
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RESULT 11
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 Q9N1S1;
Q9N1S1;
01-OCT-2000
01-OCT-2000
01-MAR-2003
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SEQUENCE
 Vascular VEGF.
 01-OCT-2000 (TrEMBLrel. 15, 01-OCT-2000 (TrEMBLrel. 15, 01-MAR-2003 (TrEMBLrel. 23, Vascular endothelial growth
 NON_TER
 Submitted (MAR-2000) to the EMBL/GenBa EMBL; AF250375; AAF75258.1; -. HSSP; P49763; IFZV. InterPro; IPR000072; PD_growth_factor.
 EMBL; AF534637; AANO4108.1; -. InterPro; IPR000072; PD_growth_factor. Pfam; PF00341; PDGF; 1.
 Capreolus capreolus (Roe deer).
 ProDom; PD001629; PD growth factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
 SEQUENCE FROM N.A.
TISSUE=Placental artery endothelium;
Zheng J., Tsoi S.C., Magness R.R.;
 Bovidae; Caprinae; Ovis.
NCBI_TaxID=9940;
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
 Ovis aries (Sheep).
 Q9MZB1;
01-OCT-2000
 1BZW6Ö
 SEQUENCE
 ProDom; PD001629; PD growth_factor; 1. PROSITE; PS50278; PDGF_2; 1.
 Submitted (AUG-2002) to the
 cells.";
 Pfam; PF00341; PDGF; 1
 "Growth factor expression in ovine fetal placental artery
 "Expression of
 69
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2000 (TrEMBLrel. 15, 1
2003 (TrEMBLrel. 23, 1
r endothelial growth 1
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 118 AA;
 113 AA;
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 Conservative
 PRELIMINARY;
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 PRELIMINARY;
 Tsoi S.C.M., Wen of VEGF receptors
 . 113
.; 13355 MW;
 13931 MW;
 82.6%;
93.3%;
 82.6%;
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 Wen Y.-X., Magness R.R., Zheng tors in ovine placental artery
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factor (Fragment).
 factor isoform 165 (Fragment).
 Last sequence update)
Last annotation update)
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 Score 71; DB
Pred. No. 1.3e
0; Mismatches
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 Score 71; I
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 2BF11C84E4F4858E CRC64;
 757DC53AA56378A6 CRC64;
 Mismatches
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EEFNITMQIMRIKPH

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 capreolus).";
Anim. Reprod. Sci. 64:65-75(2000)
EMBL; AF152594; AAF73233.1; -.
 NON_TER
 ProDom; PD001629; PD_growth_factor;
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidea; Cervidae; Odocoileinae; Capreolus.
NCBI_TaxID=9858;
 "growth factor expression in Submitted (MAY-2000) to the EMBL; AJ278192; CAC19923.1; HSSP; P49763; 1FZV.
 Eukaryota; Metazoa;
Mammalia; Eutheria;
 Callithrix jacchus
 Vascular endothelial growth
 01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2003 (TrEMBLrel. 23,
 01-MAR-2001
01-MAR-2001
 SEQUENCE
 PROSITE; PS00249; PDGF_1; 1. PROSITE; PS50278; PDGF_2; 1.
 ProDom; PD001629; PD_growth_
SMART; SM00141; PDGF; 1.
 InterPro; IPR000072; PD_growth_factor. Pfam; PF00341; PDGF; 1.
 NCBI_TaxID=9483;
 SEQUENCE
 Pfam; PF00341; PDGF;
 MEDLINE=20532861; PubMed=11078967;
Wagener A., Blottner S., Goritz F.
"Detection of growth factors in th
 Welter H., Gabler C.,
 TISSUE=Oviduct
 SEQUENCE FROM N.A.
 InterPro; IPR000072; PD_growth_factor.
 HSSP; P49763; 1FZV
 SEQUENCE FROM N.A.
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 Eutheria;
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124 AA;
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123 AA;
 Conservative
 Conservative
 PRELIMINARY;
 124
; 14548 MW;
 (Common marmoset).
Chordata; Craniat
Primates; Platyrr
 14354 MW;
 82.6%;
93.3%;
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 n marmoset monkey oviducts.";
EMBL/GenBank/DDBJ databases.
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 Score 71; DB 6;
Pred. No. 1.4e-05;
0; Mismatches 1
 Score 71; DB 6;
Pred. No. 1.4e-05;
 Craniata; Vertebrata; Euteleostomi; Platyrrhini; Callitrichidae; Callit
 PRT;
 AA6F8CAFFCF0A0CC CRC64;
 0A756F54105A4CE1 CRC64;
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 01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequen
01-MAR-2003 (TrEMBLrel. 23, Last annota
Vascular endothelial growth factor-3 (F
Capreolus capreolus (Roe deer).
Eukaryota, Metazoa, Chordata, Craniata,
Mammalia, Eutheria, Cetartiodactyla, Ru
Cervidae, Odocolleinae, Capreolus.
 Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Cetartioda
 NON_TER
 Q8MJ86;
01-OCT-2002
 SEQUENCE
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF 1; 1.
PROSITE; PS50278; PDGF 2; 1.
NON_TER 124 124
 "The expression of VEGF in porcine collateral-dependent myocardial exercise training.";
Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
EMBL, AF461807; AA185286.1; -.
InterPro; IPR000072; PD growth_factor.
Pfam; PF00341; PDGF; 1.
 01-JUN-2002 (TrEMBLrel. 21,
01-JUN-2002 (TrEMBLrel. 21,
01-OCT-2002 (TrEMBLrel. 22,
Vascular endothelial growth
 Q8SPZ9;
 Q8SPZ9
 98FWBD
 SEQUENCE
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
 PROSITE; PS50278; PDGF_2; 1.
 NCBI_TaxID=9823;
 InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
 NCBI_TaxID=9858;
 FISSUE=Myocardium;
 EQUENCE FROM N.A.
 Local Similarity
 69
 l Similarity
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BESNITMQIMRIKPH
 EEFNITMQIMRIKPH
 EESNITMQIMRIKPH 16
 131
131 AA;
 124 AA;
 Conservative
 Conservative
 PRELIMINARY;
 PRELIMINARY;
 14552 MW;
 Cetartiodactyla;
 15358 MW; 99719A58EEAC7FCA CRC64;
 82.6%;
93.3%;
 82.6%;
93.3%;
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 83
 Last sequence update)
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 factor
 Score 71;
Pred. No. 1
 Score 71;
Pred. No.
 Craniata; Vertebrata;
actyla; Suina; Suidae;
 Craniata; Vertebrata; Euteleostomi; actyla; Ruminantia; Pecora; Cervoidea;
 PRT;
 PRT;
 2E1C1A009E67C9C9 CRC64;
 Mismatches
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 (Fragment).
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 131 AA
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 Length 131;
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 Euteleostomi;
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RESULT 15
Q9ERL6
ID Q9ERI
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Job time: 16.5744 secs
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 Q9ERL6;
Q9ERL6;
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SEQUENCE
 ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
 steroid hormone in the hamster uterus.";
Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
EMBL, AF297627; AAG16241.1; -.
HSSP; P49763; 1FZV.
 01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2003 (TrEMBLrel. 15, Last sequence update)
01-MAR-2003 (TrEMBLrel. 15, Last sequence update)
Vascular endothelial growth factor VEGF (Fragment).
Mesocricetus auratus (Golden hamster).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
 PROSITE; PS50278; PDGP_2; 1.
PROSITE; PS50278; PDGP_2; 1.
 SEQUENCE FROM N.A.
 Mesocricetus.
NCBI_TaxID=10036;
 InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
 Ramesh G., Kondaiah P., Seshagiri P.B.;
"Regulation of expression of transforming growth factor-beta's
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 ESNITMQIMRIKPH
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 142
142 AA;
 Conservative
 PRELIMINARY;
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16621 MW;
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 Score 71;
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| ers<br>ers |                  |              | *.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | * ,        |                                       | .,                                     | *          | ( |
| •          |                  | •            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            | •                                     |                                        |            |   |
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|            |                  | 1-           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            | * *                                   |                                        | 700        |   |
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|            |                  | i .          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                                       |                                        | •          |   |
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|            | *                |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                                       |                                        |            |   |
|            | *                | •            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                                       |                                        |            |   |
|            |                  | <b>V</b> • . |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            | *                                     | er.                                    |            |   |
|            | 7.               | • • •        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                                       |                                        |            |   |
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|            | a <sub>k</sub> . |              | y = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                                       |                                        |            |   |
|            | 4                | e e e        | 1. (i)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |                                       |                                        | **         |   |
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|            |                  | · Assess     | Name of the state |            |                                       |                                        |            |   |